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E & P. H. (1948) Dept.

(1)

(IES) Series.

G.O. No: 1139 Edn

Dated 6-5-48

(275)

Edn - All India Council for Technical Edn - Agenda for third meeting - Papers recorded.

C.F. 32 (c).

Education. Department

From (Name) Sri D.S. Reddi M.A., (Oxon),

Designation Director of Public Instruction,

M A D R A S .

To

The Secretary to Government,
Education and Public Health Dept.,
Fort St. George,
M A D R A S .

Received ..... Registered .....

ASST. SECRETARY TO GOVERNMENT
20 MAR 1948
EDUCATION AND PUBLIC HEALTH DEPT.

Enclosures

No.Rc. 612 K2/48 dated 17th March 1948.

Sir,

21173

Sub:--All India Council for Technical Education--Third Meeting--Agenda.
Ref:---Government Endt. 11612 C1/48-1 Edn., dated 28.2.48.

The Principal, College of Engineering, Guindy suggests that the question of location of the Higher Technical Institute at Madras may be included in the Agenda of the meeting of the All India Council for Technical Education.

For Director of Public Instruction.

18/3

ALL INDIA COUNCIL
FOR
TECHNICAL EDUCATION.

(12)

21

Third Meeting.

Place: Bombay. Dates: 22nd and 23rd April, 1948.

Supplementary Agenda.

The following will be considered by the Council under item 15 of the Agenda - Any other business:-

15(a) To receive and consider a letter from Sir John Sargent regarding cooperative efforts by the British Council and the various All India bodies towards the advancement of cultural relations between the two countries.

(Annexure 15)

(b) To consider a note from the Government of Bombay regarding provision of facilities for training of

2/..

C.F. 32.

Education. Department

From (Name) Sri D.S.Reddi,M.A(Oxon)

Designation Director of Public Instruction.

Station Madras.

Received Registered

To

The Secretary to Government,
Education & Public Health Dept.,
Fort St. George,
Madras.

Enclosures:

No. Rc.612.K.2/48. dated 7--4--1948. 194 .

Sir,

ASST. SECRETARY TO GOVERNMENT
8 - APR 1948
EDUCATION AND PUBLIC HEALTH DEPT.

Sub: All India Council for Technical Education - Meeting - Agenda.

Ref: Post Copy of Telephone Message dated 31--3--1948.

I have the honour to enclose herewith a copy of Government of India's letter forwarded with the Government Endorsement No. 11612.C.1/48-1-Education, dated 28--2--1948.

25810

For Director of Public Instruction.

Cr.7.4.48.

8/7/4

Copy of letter from the Government of India, No. F.1-5/48-E.III (P) dated 13th February, 1948.

Sub: All India Council for Technical Education
Third Meeting - Agenda.

I am directed to say that it is proposed to hold the third meeting of the All India Council for Technical Education at Bombay during the third week of April 1948. I am, therefore, to request that any item/items which the Provincial Government may like to suggest for inclusion in the agenda for the meeting may kindly be communicated to the undersigned along with a self contained memorandum for the item/items suggested before the 15th March 1948 at the latest.

/True copy/

For Director of Public Instruction.

8/7/4.

6

RSO/22-4 48/204.

For H(C1)

All India Council for Technical Education – Third Meeting – Agenda

From the D.P.I., No. RC. 612-K2/48, dated 18.3.1948. 1 part

Memorandum No. ~~H682/48-2 Edn~~ 11612 C1/48-3 Edn, dated 19-4-48.

DP 19/4/48

The D.P.I. is informed that ~~the subject~~ it has been decided that the subject of "Location of the Higher Technical Institute at Madras" may be taken before the next ~~meeting~~ meeting of the All India Council for Technical Education. ~~This~~ It may be kept in mind for inclusion in the agenda for the next meeting, when proposals therefor will be called for from them.

DP 19/4/48

DSM 19/4/48

To the D.P.I.

DPS (Educ & C.) 26.4.48

Industries & Commerce Department. 7

From Sri P. Govindo Menon, B.E.,
Joint Director of Industries & Commerce,
Chepauk, MADRAS.

TO The Secretary to Government,
Education & Public Health Department, MADRAS.

Sir,

No. 1137-C2/48, dated 5th April 1948.

ASST. SECRETARY TO GOVERNMENT
8 - APR 1948
EDUCATION AND PUBLIC HEALTH DEPT.

25809

Sub: Education – All India Council for Technical Education – 3rd Meeting – Nomination of the Hon'ble Minister for Education – regarding.

A 17 8 CP

Ref: Government's Endorsement No. 755-Education, dated 2-4-1948 on the letter addressed to the Secretary to Government of India, Ministry of Education, New Delhi.

The Agenda relating to the 3rd meeting of the All India Council for Technical Education, received in this Office is forwarded to Government. I enclose copies of letters F.1-3/48-E III(P), dated 26th February 1948 and No. F.1-3/48-E.III(P), dated 30th March 1948 received from the Secretary, All India Council for Technical Education. In response to these letters I have requested the Secretary to make necessary arrangements for residential accommodation at Bombay and to include my name in the party proceeding on a trip to Poona on 24th April 1948.

7.4.48.
for Joint Director of Industries & Commerce.

ME/C/4/-

OPD 8/4/48

Enclosures: Agenda & Copies of letters.

Copy of letter No. F.1-3/48-E.III(P), dated 26th February 1948, from the Secretary, All India Council for Technical Education, Govt. of India, New Delhi, to All the members of the All India Council for Technical Education.

Sub: All India Council for Technical Education - Third Meeting.

Further to my letter No. F.1-3/48-E.III(P), dated the 30th January 1948, I am desired to inform you that the third meeting of the All India Council for Technical Education will be held at Bombay on the 22nd and 23rd April 1948. The exact place of meeting at Bombay has yet to be fixed. This information will be communicated and relevant papers forwarded to you shortly.

The question of provision of accommodation for members at Bombay is under discussion with the Government of Bombay. I shall be grateful if you would be so good as to let me know by 10th March 1948, at the latest, whether you would like arrangements to be made for your residential accommodation at Bombay.

In view of general pressure on train accommodation you may kindly write to the Railway authorities at Bombay, well in advance, for the reservation of accommodation for your return journey.

Copy of letter No. F.1-2/48-E III(P), dated 30th March 1948, from the Secretary, All India Council for Technical Education, Govt. of India, New Delhi,

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Sub: All India Council for Technical Education - Fifth meeting - Programme of visits and entertainments.

In connection with the meeting of the All India Council for Technical Education to be held at Bombay on the 22nd and 23rd April 1948, the Government of Bombay have drawn up a programme of visits of entertainments, including a trip to Poona on the 24th April, 1948. The Indian Waterways station Khadakvasla, College of Engineering and the Guarow Wadia Technical Institute at the Wadia College are some of the places of interest tentatively included in the programme.

Kindly let me know whether you wish to be included in the party proceeding to Poona. As the Bombay Government have to finalise arrangements for the tour a reply by telegram or air mail to reach me by the 8th of April 1948 at the latest would be very much appreciated.

BY AIR MAIL.
REGISTERED.

No.F.1-3/48-E.III(P).
GOVERNMENT OF INDIA.
MINISTRY OF EDUCATION.

NEW DELHI, the 9th April, 1948.

From

Dr. Tara Chand, M.A., D.Phill.,
Secretary to the Government of India.

ASST. SECRETARY TO GOVERNMENT
14 APR 1948
EDUCATION AND PUBLIC HEALTH DEPT.

To

The Secretary to the Government of Madras,
Education and Public Health Department,
Madras.

27211

Sub:- All India Council for Technical Education - Nomination of the Hon'ble Minister for Education on.

Sir,

I am directed to refer to your letter No.755 Education, dated the 2nd April 1948 on the subject mentioned above and to say that the change in nomination has been noted.

I am to say that the next meeting of the All India Council for Technical Education will be held in the Assembly Room, Council Hall Building, Bombay at 10-30 A.M. on the 22nd and 23rd April 1948. The agenda and connected papers for the meeting are sent herewith. In this connection I may add that arrangements have been made for the residential accommodation of the Joint Director of Industries and Commerce for his stay in Bombay from the 21st to the 24th April 1948 at the Tajmahal Hotel, which may now be availed of by the Hon'ble Minister for Education instead, if required.

The Government of Bombay have drawn up a programme of visits and entertainments, including a trip to Poona on the 24th April, 1948 and it will appreciated if the wish of the Hon'ble Minister for inclusion in the party proceeding to Poona is intimated to this Ministry at a very early date preferably by wire.

I have the honour to be,
Sir,
Your most obedient servant,

S.S. Sood 8/4/48
for Secretary.

SOOD

GOVERNMENT OF INDIA
MINISTRY OF EDUCATION
NEW DELHI, THE 8TH APRIL, 1948

SECTT. EDN. AND ANIM. DEPT.
14 APR 1948
GOVERNMENT OF MADRAS

MINISTER FOR EDUCATION
14 1948
GOVT. OF MADRAS

EXPRESS TELEGRAM (STATE)

JOINT DIRECTOR OF INDUSTRIES & COMMERCE
CHEPAUK
MADRAS

ASST. SECRETARY TO GOVERNMENT
EDUCATION AND PUBLIC HEALTH DEPT.
15 APR 1948

27462

1/3/48EIII(P) REFERENCE LETTER 1187C2/46 DATED TWENTYSEVENTH MARCH AAA EDUCATION MINISTER MADRAS REPLACES YOU ON ALL INDIA COUNCIL FOR TECHNICAL EDUCATION VIDE EDUCATION SECRETARY'S LETTER NO 755EDUCATION DATED SECOND APRIL AAA KINDLY TRANSFER ALL PAPERS TO EDUCATION MINISTER AAA ARRANGEMENTS MADE FOR YOU WILL BE MADE AVAILABLE FOR HIM

EDUCIND
SENGUPTA

Copy with a copy of Madras Government Letter No.755-Education, dated the 2nd April 1948 forwarded by air mail to the Joint Director of Industries and Commerce, Chepauk, Madras, in confirmation of the above telegram.

Copy forwarded by air mail for information to the Hon'ble Minister for Education, Government of Madras, Madras.

S.P. Sengupta 8/4/48

for Secretary.

"SOOD"

Edw. H.S. + Deptt. (C1)

15 9

Not to issue

Telegram, dated

To

Educind, New Delhi
Rostus, Bombay.

(Chief Secy to the Govt of Bombay)

[The] Hon'ble [the] Minister [for] Education, Madras [will be] attending [the] third meeting [of the] All India Council [for] Technical Education [at] Bombay. Arrangements [made] in [the] Taj Mahal Hotel for Joint Director [of] Industries [and Commerce] will be availed [of] by [the Hon'ble] Minister. He also wishes [for] inclusion in [the] party proceeding [to] Poona.

E Health.

Pe's. to go at once.
Copy to the Jt. Dir. of Ind. + Commerce
Copy to the Edn. Deptt.

19/4/48

19/4/48

29/4/48

Edu. & P.H. Dept. (C)

(10)

Telegram dated 19/4/48.

To

Educind, New Delhi
Restis, Bombay.

[The] Hon'ble [the] Minister [for] Education, Madras, [will be] attending [the] third meeting [of the] All India Council [for] Technical Education at Bombay. He will stay in [the] Ritz but wishes to be included in [the] party proceeding [to] Poona.

Edu. & P.H. Dept.

P.C. despatched. H.P. 19/4/48.

Rs 18 to 80

Copy to Jt. Sec. (Edn.)
" the Secy. Deptt.
for information

20.4.48

Edn. & P.H. Dept.
19/4/48

Edn. & P.H. Dept.

Secy. Eff H.

These papers may be filed.

18A 21 [illegible]

H.M. Education.

No.F.1-5/48-E.III(P)
GOVERNMENT OF INDIA.
MINISTRY OF EDUCATION.

NEW DELHI 3, the 10th APRIL'48.

Sub: ALL INDIA COUNCIL FOR TECHNICAL EDUCATION - THIRD MEETING - AGENDA.

.....

Dear Sir,

In continuation of my letter No.F.1-5/48-E.III(P) dated the 20th March 1948, I am desired to say that the meeting of the Council will be held in the Assembly Hall, Ground Floor, Council Hall Building, Bombay at 10-30 A.M. on the 22nd and the 23rd April 1948.

A copy of the supplementary agenda for the meeting with papers connected therewith is sent herewith.

SECRETARY, EDN. DEPT.
27 APR 1948
GOVERNMENT OF MADRAS

Yours sincerely,

S. Ramakrishnan 9/4/48

SECRETARY
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

The Hon'ble Minister for Education,
MADRAS

technically qualified personnel in industrial and business organisations.

(Annexure 16)

(c) To consider a note from the Ministry of Transport Government of India, regarding training facilities for certain classes of Technical Personnel for employment under the Port Authorities.

(Annexure 17).

Sood 200 CPS.

Annexure 15. Third Meeting.
Item 15(a) of Agenda.

ALL INDIA COUNCIL
FOR
TECHNICAL EDUCATION.

M E M O R A N D U M.

Copy of a letter dated the 10th March, 1948 from Dr. Sir John Sargent to the Chairman of the All India Council for Technical Education.

-0-0-0-0-

The British Council have been invited by the Prime Minister on behalf of the Government of India to start operations in this country and I have agreed to act temporarily as their representative for the next two or three months. During that period, I hope to create the nucleus of an organisation (including essential personal contacts) in the main centres so that the task of the Council's permanent representative, when he arrives, may be to that extent eased.

I feel, and I think you will agree, that if the Council is to work efficiently and to render both to this country and to Great Britain the services which are contemplated in its Charter, it should from the very beginning seek to enlist the interest of and establish cordial relations with those bodies which are concerned on an All India basis either with Education as a whole or with one of main branches of educational activity.

You will no doubt share the opinion which I have long held and expressed publicly that in an independent India, English will in all probability cease to occupy the place it has hitherto held both as an official language and as a means of communication between members of the educated classes all over India. At the same time, I know that many Indians have a real regard for the English language and for British culture generally and would welcome any effective steps for maintaining and strengthening cultural relations under the new circumstances. I believe that the British

2/..

Council can give real and practical help in this connection.

I much regret that as the time at my disposal is so short, I am unlikely to have an opportunity of meeting you or the members of your Council and explaining in greater detail what the Council's aims are and seeking your advice as to the way or ways in which they can be pursued to the best advantage of India. Fortunately, however, I am known personally to most of your members and they will hardly need assuring how much their co-operation in the important task we have undertaken will be appreciated both by myself and by my more permanent successors.

X X X X X X X X X X X X X

SOOD 100 CPS.

(14)

Annexure 16 Third Meeting.
Item No. 15(b) of Agenda.

ALL INDIA COUNCIL
FOR
TECHNICAL EDUCATION.

M E M O R A N D U M.

Provision of facilities for the training of technically qualified personnel in industrial and business organisations.

There are no facilities available in this country at present to provide training for technically qualified personnel in general business organisation so as to enable them to function as competent executives. The management of industry, both at the directional and administrative levels is at present left to financiers and other persons and it is believed that with the proposed training in industrial and business organization, production and management can be

2/..

be more efficient.

In order to create a class of people who by virtue of their all round training can set up as independent small producers or assist in the more efficient management of large scale industry or be available for employment in state manged concerns, it is necessary to organise suitable training in general industrial and business organisation.

The details of such training and the ways and means of providing for such training may be investigated. It would be possible to organize such training in cooperation with a Central Institute like the Staff College for Administrative Service, Delhi, or with the appropriate departments of Universities.

* 100 CPS 6/5/48'

Annexure 17 Third Meeting.
Item No. 15(c) of Agenda.

ALL INDIA COUNCIL
FOR
TECHNICAL EDUCATION.

M E M O R A N D U M.

Training facilities for Technical Personnel for employment under Port Authorities.

Major Port Administrations of Calcutta, Bombay, Madra and Cochin have recently brought to notice the difficulty of getting certain technical port personnel with Marine qualifications e.g.:-

(i) Civil Engineers.

(ii) Marine Engineers with first class B.O.T. or equivalent certificates.

(iii) Shipwrights.

(iv) Blacksmith and Boiler Maker Foremen.

(v) Dredge Masters.

(vi) Shipwright Foremen.

(vii) Foremen Divers (Salvage).

(viii) Loco Foremen.

2. There is considerable dearth in India of such personnel, as is borne out by the very poor response to advertisements issued by Port Authorities, and the Federal Public Service Commission. The policy of Government of India recently laid down is to appoint non-Indians only under very exceptional circumstances, and this policy applies also to employment under the Major Port Trusts, which are local bodies under their control, but in view of the lack of suitable qualified Indians, the Port Trusts have had to appoint or retain in their service a large number of non-Indians in technical posts under their control. At present there are practically no facilities in India for such education, and the scope for affording such training at the Major Ports is extremely limited, although the Calcutta Port Commissioners have a scheme for training their own

2/..

shipwright apprentices, and the Bombay Port Trust are taking steps to train Indians as Dredger Masters, Foremen Divers and Shipwright Foremen, (Dry Dock).

3. It is very essential that facilities should be provided for technical education of these classes of personnel, in order that suitable candidates may be forthcoming as and when required.

SOOD 200 CPS.

Draft proceedings of the fifth meeting of the Co-ordinating Committee of the All-India Council for Technical Education held on 21st April, 1948.

(Second Session)

The adjourned meeting of the Co-ordinating Committee was held on the 21st April, 1948, to consider the agenda for the Council's meeting.

The following members were present:-

1. Dr. N.R. Sarker (Chairman)
2. Sir Vithal Chandavarkar
3. Major D.L. Deshpande
4. Sir J.C. Ghosh
5. Dr. K.A. Hamied
6. Mr. N.K. Mitra
7. Mr. N.V. Modak
8. Sir A.L. Mudaliar
9. Dr. Tara Chand
   Dr. S.R. Sen Gupta (Secretary)

The gist of the observations made by the members and the resolutions recommended for the consideration of the Council on some of the items are given below.

Item 3(a) :-

In view of the representations made by the Institutions concerned and in consideration of the statutory obligations of some of them, the Committee reconsidered the conditions recommended to be imposed on the institutions receiving grants from the Central Government on the recommendation of the Council. The revised conditions are as follows:-

(i) In view of the fact that the All-India Diplomas and University Degrees are expected to be approximately of equivalent standards, the syllabuses should as far as possible be in accordance with the standards to be suggested by a joint committee of the Inter University Board and the All-India Council for Technical Education.

(ii) (a) The non-University Institutions shall include in the Selection Committees appointed for the purpose of recruitment of staff, independent experts with the approval of the All-India Council for Technical Education.

(b) In the case of colleges or departments under the administrative control of universities, the appointment of staff shall be made by Selection Committees constituted in accordance with the Universities' Acts and rules, or if the appointment of selection committees is not specifically provided for in the University Act, the rules for the appointment of such Committees shall be framed with the approval of the Inter-University Board. In every case, the All-India Council for Technical Education shall be acquainted with the rules and regulations for the selection and appointment of the staff.

(iii) For the non-University Institutions, equipment for laboratories of various types and workshops shall be generally as prescribed by the All-India Council for Technical Education.

(iv) Grant under a particular head shall not be utilised for a purpose other than that for which it is intended except with the general approval of the All-India Council for Technical Education.

(v) (a) A Visiting Committee or an Inspector appointed by the All-India Council for Technical Education shall periodically visit the non-University Institutions receiving grants and report to the Council whether the grants given by the Government are being properly utilised and also whether proper standards of teaching and examination are being maintained.

(b) In the case of University Departments or Institutions administered directly by universities, the university concerned shall appoint a Visiting Committee in accordance with its own rules. Where such rules do not exist already, the university will be required to frame them in consultation with the University Grants Committee. Such Visiting Committees shall inspect the institutions annually and report to the universities whether the Government grants were being properly utilised in accordance with the conditions laid down. The universities shall forward copies of all such reports to the All-India Council for Technical Education.

(vi) Where degree course as well as diploma course of a definitely lower standard than the degree in the same subject are being taught, the capital and recurring grant shall be utilised for the promotion of higher technical education only.

(vii) Receipients of recurring grant shall bring the

salary scale of teaching staff and their qualifications to the level approved by the Central Government in consultation with the Provincial Government, and/or Universities concerned, within three years from the date from which the first recurring grant is made.

(viii) In the case of non-University institutions, the appointment of Professors or Heads of Departments to permanent vacancies that may occur, shall be made within a period of six months and in accordance with the conditions laid down in (ii)(a) above. The placing of the present incumbents on professorial status or status of Heads of the Departments for which grants are being made by the Government shall also be subject to the approval of the Council.

(ix) The Central Government shall determine in consultation with the Provincial Governments and institutions the quota for each Province for purposes of admissions to the institutions concerned.

(x) Capitation fees shall not be charged in respect of students admitted under the quota system fixed by the Central Government.

(ix)(a) The Central Government shall have at least two seats for its nominees on the Managing Committee or the Governing Body of non-University institutions and the All-India Council for Technical Education shall also have two seats thereon. The Principal or the Head of the institution shall be an

ex-officio member of the Managing Committee or the Governing Body.

In all institutions there shall be constituted a College Council on which will be represented the Principal and all Heads of Departments. All academic matters pertaining to the College will be considered by this Council, and the proceedings of the Council shall be submitted to the Managing Committee or the Governing Body as the case may be. The Council shall meet at least twice a year.

(ix)(b) Where there is an Advisory Committee the All-India Council for Technical Education and the Government of India will be represented on it. Where there are no Advisory Committees, the All-India Council for Technical Education shall have the right to appoint an ad-hoc Visiting Committee for the purpose of reporting how the grants given to the institutions were being utilized.

(xii) Where a grant has been given by the Government of India under specific conditions accepted by the University or the institutions concerned, the University or institution that does not conform to these conditions shall be liable to refund the grant already received, in such manner as may be required by the Central Government, and further grants shall be stopped.

The members felt that in order to plan ahead it was necessary for the institution to have an idea of the

amounts they were likely to receive by way of grants from the Central Government. The Educational Adviser informed that this question was receiving the attention of the Government. The Committee recommended the following resolution for the consideration of the Council in this connection.

Resolution.

'The Council desires to make it clear that for purposes of improvement of the existing facilities in these institutions and for increasing the intake of students, both non-recurring and recurring liabilities are involved and requests the Government of India to expedite the disposal of the question of total grants both recurring and non-recurring and communicate their decision to the institutions concerned at an early date'.

Item No.4(a).

In order that all interests in every region throughout India may be better acquainted with the work of the Council, the Committee felt that it was necessary to appoint at least the planning staff for each of the proposed four regions immediately even though from other considerations it might be desirable to postpone to a later date the questions of demarcation of the regions, the constitution of the Regional Committees, and the assignment of functions to each of these Committees.

Resolution.

'The Council accepts the principle of constituting four Regional Committees but in view of the impending changes in the country defers the demarcation of the regions and the constitution of the Regional Committees for a period of one year. The Council further recommends to the Government that a Planning Officer with necessary staff be immediately appointed for each of the four regions'.

Item No.4(b).

The Committee was of the opinion that since the Provincial and State Governments had in the main the responsibility of executing the schemes for the development of Technical Education, there was considerable force in the request of the Bombay Government that the Provincial Governments etc. should have larger representation on the Co-ordinating Committee of the Council. The Committee recommended that the Co-ordinating Committee should have four representatives of the Provincial and State Governments on the Council as against two at present so as to permit of one representative for the Provincial and States Governments of each region to be elected by the representatives of the Provincial and State Governments on the Council.

Item No.5.

Higher Technical Institutions.

In regard to the site for the Eastern higher technical institution, the Coordinating Committee was of the opinion that the Hijli site which is 73 miles from Calcutta, about 50 miles from Jamshedpur, about 100 miles from the Asansole industrial area and is also quite near to the provinces of Bihar and Orissa, and possesses some permanent and temporary buildings and roads which will be available for immediate use as well as adequate sources of water supply and electricity, should be secured immediately for starting the Eastern Higher Technical Institution.

Resolution.

'The Council recommends that the site at Hijli which affords all necessary facilities and is within easy reach of Calcutta and in proximity to the provinces of Bihar and Orissa, may be chosen for

starting the Eastern Higher Technical Institution.

The Committee was of the opinion that the Government of India should make within this quinquennium a beginning with the Northern as well as the Southern higher technical institutions in addition to the Eastern and the Western.

Resolution.

'This Council is of the opinion that steps should be taken by the Government of India for the establishment of the four Higher Technological Institutions in the following order:-

1. Eastern & Western Institution. (Hijli & Bombay).

2. Southern & Northern Institution. (Madras & Cawnpore).

and that immediate negotiations should be carried on with the Provincial Governments concerned for the sites required. The Council recommends that the necessary land (1000 to 1250 acres in each case) should be made available to the Government of India by the Provincial Governments concerned free of cost. The Provincial Governments should also be required to arrange for the supply of electricity, water. etc. as may be required for these institutions.'

Craftsmen Training Scheme.

The Committee was of the opinion that sufficient progress was not being made in the training of craftsmen who would be required in large numbers for the implementation of all the post-war schemes - both Governmental and industrial.

Resolution.

'In view of the great need for training craftsmen in sufficient numbers to meet the requirements of industrial expansion, this Council recommends to all Provincial Governments that immediate steps be taken for instituting training centres in the shape of trade schools, technical schools etc. to train such craftsmen. The Council directs the Secretary to prepare in consultation with the Government of India

experts a note on the type of training that will be needed for the various categories of craftsmen and supervisors and to forward it to the Provincial Governments and other industrial interests concerned.

Item 6(b).

The Committee recommended that the Council might consider the following persons for nomination as their representatives on the Boards of Technical Studies :-

1. Mr. K.D. Jalan	- Commerce & Business Administration.
2. Mr. H.N. Dallas	- Architecture & Regional Planning.
3. R.B. A.N. Khosla	- Engineering & Metallurgy.
4. Prof. J.N. Mukerjee	- Chemical Engineering & Chemical Technology.
5. Sir Shri Ram	- Textile Technology.
6. Major D.L. Deshpande	- Applied Art.

Item 6(c).

The Co-ordinating Committee's views are given under item No. 3 on page 2 of the draft proceedings of the 1st. session of the meeting held on the 20th. April.

Item 7.

Resolution.

"The Council directs that the Secretary in consultation with other experts should prepare a draft scheme for the organisation of engineering education and place it, together with the note from the Govt. of West Bengal, before the Board of Technical Studies in Engineering and Metallurgy, for their consideration in the first instance. "

Item No. 8.

Resolution.

(a) "The Council is of the view that the Engineering Diploma Holders in the

service of the C.P.W.D. should either take part time courses and appear for the All India Diploma Examination or qualify for the Associate Membership of the Institution of Engineers."

(b) " In the case of Architectural Assistants the Council desires that the matter may be considered in the first instance by the Board of Technical Studies in Architecture who may suggest the necessary conditions which such assistants should fulfil in order to be eligible to sit for the different parts of the All-India Diploma examinations."

Item No. 9.

Resolution.

" The Council is of the opinion that the apprenticeship training course can be a success only if the Central Government or the Provincial Government concerned is prepared to offer stipends to the apprentices during their period of apprenticeship and also pays for one or more officers in the appropriate industrial concerns to supervise the training. The Council recommends that the Govt. of India should, in consultation with the Provincial Governments, draw up an approved list of industrial concerns which are capable of imparting apprenticeship training in appropriate branches. The Council suggests that the Ministries of Industry & Supply, Labour and Education might draft definite proposals for the organisation of this training and for the introduction of suitable legislation, if necessary."

Item No. 11.

Resolution.

"The Council authorizes the Chairman to appoint a small committee to consider the matter and report to the Co-ordinating Committee."

Item No. 12.

Resolution.

"In view of the fact that the All India Manufacturers' Organization is affiliated to the Employers' Organization which is already represented on the Council, the Council regrets that they cannot recommend the grant of separate representation to this body."

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

Third Meeting.

Place: Bombay

Dates: 22nd and 23rd April, 1948.

ADDITIONAL SUPPLEMENTARY AGENDA

The following will be considered by the Council under item 15 of the Agenda - Any other business:-

15 (d) To consider letter No.977(E)/XVIII-219/44 dated the 6th April 1948 from the Govt. of the United Provinces

i) requesting that United Provinces Government may be represented in the Co-ordinating Committee,

ii) asking for the location of the Northern Higher Technical Institute at Kanpur,

iii) requesting that all the institutions of the Provincial Government be represented on the Regional Committee of the Council,

iv) expressing the opinion that the exclusion of Provincial Government Institutions for purposes of recommendations for financial aid from the Central Government is unjustifiable, and

v) taking exception to the grouping adopted in reporting the results of survey of technical institutions.

(Annexure 18)

(e) To consider letter No.2038E, dated the 5th April 1948 from the Government of Bihar regarding the establishment of a Zonal Higher Technical Institute in Bihar and other matters.

(Annexure 19)

P.T.O.

(f) To report that Prof.J.N. Mukherjee, Director Indian Agricultural Research Institute, New Delhi, has been nominated by the Chairman to represent the Council on the Chemical Division Council of the Indian Standards Institution.

DHIMAN

Annexure 18.
Item No.15(d) of Agenda.

Third Meeting

ALL INDIA COUNCIL
FOR
TECHNICAL EDUCATION

Copy of a letter No.977(E)/XVIII-219/44 dated the 6th April 1948 from the Deputy Secretary to the Government of the United Provinces, Industries (A) Department, to the Secretary, All India Council for Technical Education, New Delhi.

With reference to your letter No.F.1-5/48-E.III(P) dated February 13, 1948, I am directed to say that the United Provinces Government desire the inclusion of the following items in the agenda for the third meeting of the All India Council for Technical Education.

(1) Necessity of appointing representatives of the Provincial Government on the Co-ordinating Committee.

The procedure of work followed by the Council is that the Co-ordinating Committee, which meets a day before the meeting of the Council, first examines the Agenda and formulates its own resolutions or definite views on the various items and then places its resolutions before the full meeting of the Council for ratification or acceptance after such modification as the Council may like to make. In actual practice, therefore, it is the Co-ordinating Committee which exercises real power and influence. The United Provinces Government is not represented on the Co-ordinating Committee. The United Provinces Government have a large number of Technical Institutions. They would, like, therefore, to be represented on the Co-ordinating Committee so that they may be associated at every stage with the activities of the All India Council for Technical Education.

(2) The location of Northern Higher Technical Institution at Kanpur or Roorkee or both.

Since the last meeting of the All India Council for Technical Education was held at Bangalore, the position in regard to constitutional changes has been clarified

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after August 15, 1947. In their letter No.1170/XXIII/22TC/46, dated August 13, 1946, the Government suggested that the Harcourt Butler Institute at Kanpur should form a nucleus for imparting training in subjects other than Engineering. The U.P. Government would agains press for the location of an institute for the higher technical education at Kanpur. Kanpur has already got (i) Harcourt Butler Technological Institute in the Chemical Technology of Oils and General Chemical Research and (ii) Government Central Textile Institute for Textile Technology (carding, weaving and spinning) and Chemical Technology of Textiles (dyeing, printing and finishing). The Sugar Industry is also represented at Kanpur by the Indian Institute of Sugar Technology. Thus Kanpur provides facilities for training in the three major industries of the province and can be developed into a centre of a very high grade institution if adequate funds are made available.

(3) Establishment of Regional Committees.

In order that the United Provinces Government's first class institutions may be organized on lines of All India Diploma Courses and Certificates in the various subjects and may develop Post Diploma Courses, it would be advisible to have Regional Committees appointed on which all these institutions of the Provincial Government are represented. The following are the institutions which should be brought to the notice of the All-India Council for Technical Education.

(1) Harcourt Butler Technological Institute (already in their notice),
(2) Government Central Textile Institute, Kanpur.
(3) Government Technical Institute, Gorakhpur.
(4) Government Technical Institute, Lucknow.
(5) Government Technical Institute, Jhansi.
(6) Government School of Arts and Crafts, Lucknow.

The development of these institutions on large scale is already under the consideration of this Government, some of them have recognized Diploma Courses for full

3/..

Technological subject equivalent to degrees. In the interest of the development it seems necessary to give them a representation on the Regional Committees to be formed.

(4) Aid to existing institutions.

The Provincial Government Institutions appear to have been excluded for purposes of aid by the Committee which has considered only non-official institutions viz., Banaras and Aligarh Colleges and Dayalbagh Engineering College. The latter are also in receip of grants from the United Provinces Government. There appears to be no justification for excluding Government institutions for grants and aid as some of the United Provinces Government's institutions, like the Harcourt Butler Technological Institute and the Central Textile Institute, Kanpur serve not only the United Provinces but various parts of the country from where students are attracted to these institutions.

(5) Classification of Technical Institutions to be on the basis of their courses rather than on academic standard of admission or academic affiliation to bodies such as universities.

The All India Council of Technical Education has classified institutions in their Draft Interim Report on the Survey of Technical Institutions, into various grades according to academic standards of admission or academic affiliation to bodies like Universities. This needs reconsideration. Several of the diploma courses in the United Provinces Government Technical Institutions are strong in theory, and in practice, according to the conditions required in the province or in the country. Their comparison with foreign courses would not therefore be fair. If the present classification is enforced such institutions will be placed under a handicap and it should,

therefore, be the aim of the All India Council of Technical Education not to perpetuate one of the defects from which the technical education has suffered so far. The classification may not, therefore, be based on academic standard of admission viz. Intermediate or Degree as is done in the report and may be based on merits of the courses according to the needs of the country.

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Annexure 19.
Item No. 15(e) of Agenda.

Third Meeting.

(24)

ALL INDIA COUNCIL
FOR
TECHNICAL EDUCATION.

Copy of a letter No.2038-E, dated the 5th April 1948 from the Secretary to the Government of Bihar, Department of Education to the Secretary, All India Council for Technical Education, New Delhi.

With reference to your letter No.F.1-5/48-E.III(P), dated the 13th February 1948, I am directed to suggest the following items for inclusion in the agenda for the meeting:-

(i) Immediate steps be taken to establish one of the four proposed zonal Higher Technical Institutes mentioned in the Government of India Department of Education's letter No.F.1-B/46-E.III(P), dated nil, in Bihar which has various natural facilities for Industrial development.

(ii) In order to enable adequate exploitation of the educative possibilities of the work in which the trainees are engaged in the Industrial and Technical Schools and for facilitating full development of the personality of the pupils attending them both as individuals and social beings, Industrial and technical schools should be placed under the co-ordinated and joint control of the Education and Industries Departments.

(iii) The All India Council for Technical Education in collaboration with the Central Advisory Board of Education or the Hindustani Talimi Sangh or both should formulate proposals for diversion of pupils at appropriate stages from senior Basic and Post-basic schools to Technical schools and so frame their curricula that pupils of basic and post-basic schools having the required aptitude may find the transition from such schools to Technical Schools easy.

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(iv) In view of the recommendation of the Central Advisory Board of Education contained in the Sargent Report that technical education must include commercial education and Art in relation to Industry, commerce teaching in colleges and schools which is purely under the Education Department, now, be placed under the joint control of the Education and Industries Departments.

SOOD 200 CPS

(28) 47

Draft proceedings of the fifth meeting of the Co-ordinating Committee of the All-India Council for Technical Education held at Bombay on the 20th April, 1948.

1. The fifth meeting of the Co-ordinating Committee of the All-India Council for Technical Education was held at Bombay on the 20th April, 1948, under the chairmanship of Mr. N.R. Sarker. The following members were present:-

1. Mr. N.R. Sarker (Chairman)
2. Mr. Claude Batley
3. Sir Vithal Chandavarkar
4. Major D.L. Deshpande
5. Sir J.C. Ghosh
6. Dr. K.A. Hamied
7. Mr. N.K. Mitra
8. Mr. N.V. Modak
9. Sir Padampat Singhania
10. Dr. Tara Chand

Dr. S.R. Sen Gupta (Secretary)

Sir A.L. Mudaliar, Sir S.S. Bhatnagar, Sir Bertie Staig, Dr. V.S. Jha and Dr. A.H. Pandya were unable to attend.

(The agenda for the meeting is shown in Appendix I)

Item No. 1. To report that the proceedings of the fourth meeting of the Co-ordinating Committee held at New Delhi on the 15th November, 1947, were confirmed by circulation to members.

2. It was reported that the proceedings of the fourth meeting of the Co-ordinating Committee were confirmed by circulation.

Item No. 2. To consider the agenda for the third meeting of the All-India Council for Technical Education.

3. It was decided to take up this item on the following day, viz. 21st April, 1948.

Item No. 3. To report the membership of the different All-India Boards of Technical Studies as reconstituted with effect from the first of January, 1948.

4. At the outset the Chairman informed that in the lists of members of the various Boards, the names appearing

against Nos. 9-12, as nominees of the Co-ordinating Committee were provisional and he would like to have the views of the members of the Committee thereon before finalising the nominations. He also invited the attention of the members to the issue raised by the two major Employers' Organisations for the Council's consideration and decision, namely, that they would prefer having definite representation on only some of the Boards rather than have their nominees for all the Boards pitted against those of the other organisations. The Committee considered the matter in all its aspects and decided to recommend to the Council -

(a) that the Federation of Indian Chambers of Commerce and Industry, New Delhi, may have a representative on the All-India Board of Technical Studies in Commerce and Business Administration;

(b) that the Employers' Federation of India may have their representatives on the All-India Boards of Technical Studies in

  (i) Chemical Engineering & Chemical Technology;

  (ii) Textile Technology;

(c) that the All-India Organisation of Industrial Employers may have representatives on the All-India Boards of Technical Studies in

  (i) Architecture & Regional Planning
  (ii) Engineering & Metallurgy
  (iii) Applied Art;

(d) that when the Boards are again reconstituted after a period of three years, the Employers' Federation of India may have representation on the All-India Boards of Technical Studies in Architecture & Regional Planning, Engineering and Metallurgy, and Applied Art, and the All-India Organisation of Industrial Employers may then have representation on the All-India Boards of Technical Studies in Chemical Engineering & Chemical Technology, and Textile Technology.

In regard to the nominees of the Co-ordinating Committee on the Boards, the Chairman accepted the suggestions made by the members. The following is a

list of the nominees as finally decided :-

(a) Commerce & Business Administration.

(1) Mr. Narahari Rao (New Delhi)

(2) Mr. Chidambaram Chettiar (Madras)

(3) Mr. R.G.Sarayya (Bombay)

(4) Mr. K.M.Naik (Calcutta)

(b) Architecture & Regional Planning.

(1) Dr. Königsberger (Mysore)

(2) Mr.G.B.Deolalikar (New Delhi)

(3) Mr. Sirishchandra Chatterji (Calcutta)

(4) Prof. C.M.Master (Bombay)

(c) Chemical Engineering & Chemical Technology.

(1) Mr. S.P.Sen (Calcutta)

(2) Dr. H.L.Roy (Jadavpur)

(3) Dr.B.C.Guha (Calcutta)

(4) Dr. N.N.Godbole (Banaras)

It was suggested that the Board might consider co-opting Mr.L.Gupta, Dr.K.A.Hamied and Mr. Hathiangali of the Associated Cement Coys.

(d) Engineering & Metallurgy.

(1) Mr. N.S.Gupchup (Bombay)

(2) Mr. J.A.Taraporevala (Poona)

(3) Mr.G.C.Mitter (Bombay)

(4) Dr.J.J.Rudra (Madras)

(e) Textile Technology.

(1) Mr. J.O.Lal (Kanpur)

(2) Seth Amritlal Hargovindas (Ahmedabad)

(3) Dr.Lavji Thoria (Travancore)

(4) Mr.M.P.Nair (Travancore)

It was suggested that the Board might consider co-opting a silk Technologist as well as a Jute Technologist.

(f) [illegible]t.

(P.T.O.)

(f) Applied Art.

(1) Mr.Ratan Batra (Bombay)

(2) Dr. Stella Kramerisch (Calcutta)

(3) Dr. Rathindranath Tagore (Santiniketan)

(4) Mr. V.N.Adarkar (Bombay)

It was suggested that the Board might consider co-opting Mr. Gautama Sarabai.

Item No.4. To receive and to consider a note relating to the College of Engineering, Trivandrum, University of Travancore, prepared by the Principal of the College, and to make recommendations in regard to the financial assistance from the Central Government to the institution.

5. Major Deshpande informed that the University's object in making this approach was to ensure that the case of this particular institution is not overlooked when the question of giving grants from the Central Revenues to the Provincial & State Government institutions is considered by the Council. The committee decided that the matter be considered at the appropriate time.

Item No.5. To report the recommendations of the All-India Board of Technical Studies in Engineering and Metallurgy regarding advanced instructions in Highway Engineering.

6. The Committee agreed with the views of the Chief Engineers of Provinces that the Highway Engineering course should be a specialized post-graduate course to be taken by students who have undergone a broad-based engineering course and put in some time in the construction of highways. The course should, therefore, normally be open to those who are already engaged on this type of work. The Committee were not in favour of providing Highway Engineering as an elective subject in the fourth year of the course for Advanced Diploma or Honours Degree and suggested that the Director of the

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Road Research Laboratory, when it is set up, may also undertake the duties of Professor of Highway Engineering at the Delhi University where specialized instruction in the subject may be imparted instead of starting such courses in the different colleges.

Item No.6. To consider the draft regulations for the conduct of All-India Diploma and Certificate Examinations, as recommended by the various Boards of Technical Studies of the Council.

7. The Committee was of the view that in the All-India Examination Scheme, sufficient weight should be given to the performances of the candidates throughout the period of instruction at the Institutions. The Committee thought that the draft rules and regulations were generally on the right lines and directed that these be scrutinized by a small expert sub-committee consisting of

(1) Sir J.C.Ghosh

(2) Principal P.N.Joshi, and

(3) Principal B.D.Buri,

with power to co-opt additional members, if necessary, and report to the Government on behalf of the Co-ordinating Committee.

Item No.7(a). To consider whether the Central Government should entertain applications for grants from newly started Technical Institutions in the Provinces which are not provided for in the Provincial Post-war reconstruction plans.

8. The Educational Adviser mentioned in this connection that the Government were committed to set up two high-grade technological institutions and to provide funds for strengthening 14 existing institutions and remarked that the Government of India would, at any rate, find it difficult to agree to finance directly any new projects until the Scientific Manpower Committee's estimate of the requirements for Technical personnel for the next five or ten years is known.

Sir J.C.Ghosh expressed the opinion that although as a general rule no new projects may be financed, deserving cases should not be completely debarred from receiving consideration for financial assistance from the Centre. After considering the different aspects of the question, the Committee came to the conclusion that the Government of India should for the present concentrate on the establishment of the two high-grade technological institutions and the strengthening of the 14 existing institutions as already recommended by the Council and that for the next two years the Council should not recommend any other institution for financial assistance from the Government of India.

Item 7(b). To consider a letter from Mr. B.N.Gupta addressed to His Excellency the Ambassador of India in U.S.A. regarding the establishment of a Teachers' Training College of Rural Technology in India.

9. Sir J.C.Ghosh informed that issues similar to those raised in Mr. Gupta's letter have been under the consideration of certain non-official organisations. The Committee thereupon decided that copies of Mr. Gupta's letter be forwarded to the Trustees of Kasturba Fund and Gandhi National Memorial Fund for their consideration.

Item 7(c). To consider a note from the Ministry of Communications, Government of India recommending the introduction of Geophysics for the M.Sc. Degree in Universities having facilities for teaching up to M.Sc. standard in Geology, Physics and Mathematics.

10. The Committee felt that the establishment of a Central Geophysical Institute was a necessity and decided that the question of institution of Geophysics course for the M.Sc. degree should be referred to the Inter University Board with copy to such of the Universities as provide courses in Geology, Physics and Mathematics.

Item 7(d). To consider a note from the Ministry of Works, Mines and Power, Government

India regarding

(1) Practical and theoretical training of officers recruited to the Explosives Department in

i) Petroleum Technology,

ii) Technology of Explosives manufacture,

iii) Technology of compressed gas cylinders, and

(2) Establishment of institutions to impart training in Printing and Allied Trades.

11. In regard to the educational and training facilities in Petroleum Technology the Committee was of the view that no useful purpose would be served by introducing post-graduate courses in Petroleum Technology in any institution unless and until refineries for the production of petroleum from crude oil are started in the country.

In regard to the Technology of Explosives manufacture Sir J.C.Ghosh informed that the Government of India were contemplating to set up one or two factories for the manufacture of explosives for civilian needs and thought that suitable universities or higher technical institutions in proximity to the proposed factories should be able to train technologists for the manufacture of explosives in close collaboration with these factories. The Committee agreed with this view.

In regard to the training of personnel in the technology of compressed gas cylinders the Committee recommended the institution of a suitable apprenticeship course at the Sindri Fertilizer Factory.

As regards the establishment of institutions to impart training in Printing and allied trades the Committee were informed that a comprehensive scheme for the establishment of a school of Printing has already been prepared by the All-India Board of Technical Studies in Applied Art, and

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E&P.A(c)

Ref: D.P.S's Rem. 612 K2/48 d 17-3-48
re. the agenda for the meeting
of the All India Council for
Technical Edn.

Please send very
urgently a copy of the Govt. of
India's letter forwarded with Govt.
Endt. No. 4612 E.1/48-1 Edn d. 28-2-48.

30/3/48.

31/3/48.

circulated to the Provincial Governments. The Committee expressed the hope that some tangible result would accrue from this approach.

Item 7(e). To consider a note from the Ministry of Labour, Government of India, regarding Safety Education in Engineering Colleges and Technical Institutions.

12. The Committee decided that the memorandum be circulated to the various Engineering Colleges for their consideration.

Item 7(f). To consider letter No.P/410, dated the 12th April, 1948, from the Pro-Vice-Chancellor, Banaras Hindu University, regarding grant to the College of Technology, Banaras Hindu University.

13. Major Deshpande, a member of the Visiting Committee for this institution, apprised the Committee of the extent of facilities available at the institution and his views as to how they could be best utilised. In view of the numbers already admitted by the University/Industrial to the Chemistry Course a suggestion was made that the annual intake might be increased by providing two shifts at the institution.

The Committee were emphatically of the view that the annual intake should under no circumstances be increased to such an extent as may prove detrimental to the standard of education. It was decided that the Visiting Committee which had reported on the College of Technology, Banaras Hindu University, should consider the letter from the Pro-Vice-Chancellor and make recommedations.

The meeting then adjourned to 10.30 a.m. on 21.4.48.

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Appendix 1.

(33)

CO-ORDINATING COMMITTEE
OF THE
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

Fifth Meeting.

Place: Bombay. Date: 20th and 21st April, 1948.

A G E N D A.

1. To report that the proceedings of the fourth meeting of the Co-ordinating Committee held at New Delhi on the 15th November, 1947 were confirmed by circulation to members.

2. To consider the agenda for the third meeting of the All India Council for Technical Education.

Annexure 1.

3. To report the membership of the different All India Boards of Technical Studies as reconstituted with effect from the first of January 1948.

Annexure 2.

4. To receive and to consider a note relating to the College of Engineering, Trivandrum, University of Travancore, prepared by the Principal of the College, and to make recommendations in regard to the financial assistance from the Central Government to the Institution.

Annexure 3.

5. To report the recommendations of the All India Board of Technical Studies in Engineering and Metallurgy regarding advanced instructions in Highway Engineering.

Annexure 4.

6. To consider the draft regulations for the conduct of All India Diploma and Certificate Examinations, as recommended by the various Boards of Technical Studies of the Council.

Annexure 5.

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7. Any other business:-

(a) To consider whether the Central Government should entertain applications for grants from newly started Technical Institutions in the Provinces which are not provided for in the Provincial Post-war reconstruction plans.

(Annexure 6)

(b) To consider a letter from Mr. B.N. Gupta addressed to His Excellency the Ambassador of India in U.S.A. regarding the establishment of a Teachers' Training College of Rural Technology in India

(Annexure 7)

(c) To consider a note from the Ministry of Communications, Government of India recommending introduction of Geophysics for the M.Sc. Degree in Universities having facilities for teaching up to M.Sc. standard in Geology, Physics and Mathematics.

(Annexure 8)

(d) To consider a note from the Ministry of Works, Mines & Power, Government of India regarding

(1) Practical and theoretical training of officers recruited to the Explosives Department in

i. Petrolium technology,
ii. Technology of Explosives manufacture,
iii. Technology of compressed gas cylinders, and

(2) Establishment of Institutions to impart training in Printing and Allied Trades.

(Annexures 9 & 10)

(e) To consider a note from the Ministry of Labour, Government of India regarding Safety Education in Engineering Colleges and Technical Institutions.

(Annexure 11)

(f) To consider letter No.P/410, dated the 12th April 1948 from the Pro-Vice-Chancellor, Banaras Hindu University regarding grant to the College of Technology, Banaras Hindu University.

(Annexure 12).

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(34) 65

Annexure 2.
Item No.3 of Agenda of the fifth Committee of the Co-ordinating Committee.

This has already been circulated as Annexure 7(a) to Item 6(b) of the Agenda of the 3rd meeting of the Council.

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Annexure 3
Item 4 of Agenda

Coordinating Committee
Fifth Meeting

UNIVERSITY OF TRAVANCORE

R.O.C.No. 17006/47

Trivandrum, 19th January'48.

From

THE REGISTRAR,
University of Travancore, Trivandrum.

To

Dr. Sen Gupta,
Secretary, All India Council for Technical Education,
New Delhi.

Sir,

With reference to the Government of India scheme for the promotion of technical education in India with a view to raising and improving the standards of training given in technical institutions and increasing the number of persons trained, I have the honour to forward herewith for favour of consideration by the All India Council for Technical Education and the Government of India, a note relating to the College of Engineering in this University prepared by the Principal of the institution.

2. The College of Engineering under this University was started in 1939 and has thus been in existence for nine years. Provision has been made in the college for degrees, diplomas and certificates in Civil, Mechanical and Electrical Engineering. Our Engineering degrees and examinations have been recognised by the Federal Public Service Commission and the Institution of Engineers, India. From the very outset this college has endeavoured to maintain very high standards in instruction and examinations and consequently graduates of this college have always done well at All India competitions. The courses of study have also been recently revised providing for specialisation in:

(a) Structural Engineering,
(b) Highway Engineering,
(c) Public Health Engineering,
(d) Irrigation,
(e) Production Engineering,
(f) Power (Mechanical) Engineering,

(g) High Voltage (Electrical) Engineering,

(h) Communications,

(i) Power Supply.

3. Owing to limitations in the matter of accommodation and equipment imposed by the conditions created by the war, the University had necessarily to keep the fresh admissions every year to a comparatively low figure. It is the intention of the University now to expand and improve the college in such a way as to facilitate the admission of more candidates for training. I may also add in this connection that admission is not restricted on any provincial basis; candidates from Indian Provinces and States are eligible for admission. As a matter of fact we have during the past few years been admitting students not only from the neighbouring Province of Madras but also from the States of Cochin, Bikanir, Patiala and Tonk.

4. The Principal's note indicates the lines on which expansion is proposed. The University proposes to start immediately a Polytechnic which, though an independent institution, will be working in collaboration with the College of Engineering.

5. I am to request that the Government of India may be pleased to include the College of Engineering in this University in the scheme for the furtherance of technical education in India.

I have the honour to be,
Sir,
Your most obedient servant,

Sd/- .....
REGISTRAR

Annexure 3. Fifth Meeting 69
Item No.4 of Agenda.

CO-ORDINATING COMMITTEE
OF THE
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

(36)

UNIVERSITY OF TRAVANCORE

COLLEGE OF ENGINEERING.

THE College of Engineering, Trivandrum, provides instruction for Degree, Diploma and Certificate Courses in--

1. Civil Engineering;
2. Mechanical Engineering;
and 3. Electrical Engineering.

The object of the Degree Course is to provide efficient theoretical and practical training for young men intending to follow the professions of Civil, Mechanical and Electrical Engineering. The instruction is similar to that for the Engineering Degree of the English and American Universities and covers the requirements of the Associate Membership Examinations of the Institution of Civil, Mechanical, and Electrical Engineers.

It is proposed to give advanced instruction of post-graduate standard in:

Structural Engineering, Highway Engineering, Public Health Engineering, and Irrigation Engineering	under Civil Engineering;
Production Engineering, and Power Engineering	under Mechanical Engineering;
High Voltage Engineering, Power Supply Engineering, and Communication Engineering	under Electrical Engineering.

The object of the Diploma Course is to provide efficient theoretical and practical training for young men intending to follow

the Engineering profession in its various branches, Civil, Mechanical, and Electrical. While the course is not so extensive theoretically as the Degree Course, more time is devoted to practical training, as these young men will be required in subordinate grades as Overseers and Foremen in the various trades. The course is designed to develop intelligence, initiative and resourcefulness in carrying out operations. The syllabuses are so arranged that it will be possible for the best of these students to prepare themselves by further study for the graduate-ship examination of the various professional Institutions, i.e., Institution of Civil, Mechanical and Electrical Engineers, Institution of Engineers (India) and thus qualify themselves for higher posts in the Engineering services.

It is proposed to give specialized instruction in:

General Civil Engineering Public Health Engineering	}	under Civil Engineering;
Two Electives	}	under Mechanical Engineering;
Power Engineering, and Communication Engineering	}	under Electrical Engineering.

The Certificate Course is designed to provide the Departments and Industries with Skilled Artisans. It is essentially a practical course and the minimum amount of theoretical knowledge is imparted.

It may be noted that admissions to all these courses are made purely on the basis of merit by--

(1) giving credit to the academic performance;

(2) holding examinations in Drawing and other important subjects;

and (3) conducting a viva voce.

With a view to train up every year 60 students in each of the Degree, Diploma and Certificate classes in the different branches

mentioned above and to impart efficient training of a post-graduate standard to the Degree students in the different branches, it is proposed to apply to the Government of India for a Capital Grant of Rs. 2,850,000/- (distributed over a period of five years) and a recurring grant of Rs. 700,000/- every year, the details being as shown below:

The existing floor area available for lecture classes, Drawing halls, Laboratories and Workshops are given in Appendix I.

Extra accommodation required will be:

Lecture Halls	8 x 30 x 20	...	4,800 sq. ft.
Drawing Halls	2 x 100 x 30	...	6,000 ,,

Laboratories:

Hydraulic Machinery	100 x 40	4,000	sq. ft.
Highways	80 x 60	4,800	,,
Public Health	80 x 60	4,800	,,
Irrigation Research	100 x 40	4,000	,,
Soil Analysis	50 x 50	2,500	,,
Electrical Communication	80 x 40	3,200	,,
High Tension	80 x 40	3,200	,,
Illumination Engineering and Standardization	80 x 40	3,200	,,
Heat Engines, Workshop tools etc.	100 x 50	5,000	,,
Library	120 x 40	4,800	,,
		50,300	sq. ft.

@ Rs. 12/- per sq. ft. ... Rs. 603,600.

Hostel:

Degree students	4 x 60	..	240
Diploma students	3 x 60	..	180
Certificate students	2 x 60	..	120
			540

@ Rs. 1,500 per student ... Rs. 810,000.

Furniture:

Lecture Halls	8 x Rs. 2,000	..	Rs. 16,000
Drawing Halls	2 x Rs. 12,000	..	Rs. 24,000
Library	..	..	Rs. 10,000
			Rs. 50,000.

(Continued on page 4.)

Equipment:

Additions to S.M. Laboratory	..	Rs. 100,000
Additions to Hydraulic Laboratory	..	Rs. 50,000
Hydraulic Machinery	..	Rs. 100,000
Surveying ..	..	Rs. 50,000
Structural Research	..	Rs. 100,000
Highway Laboratory	..	Rs. 100,000
Public Health Laboratory	..	Rs. 100,000
Irrigation Research Laboratory		Rs. 100,000
Soil Testing ..	..	Rs. 50,000
Electrical Communications	..	Rs. 100,000
High Tension ..	..	Rs. 100,000
Illumination Engineering and Standardization	..	Rs. 100,000
Additions to H.-E. Laboratory	..	Rs. 200,000
		Rs. 1,250,000.

Back Numbers of Publications ... Rs. 50,000.

TOTAL NON-RECURRING..... Rs. 2,763,600.

OR approximately 5°5 lakhs per year, distributed over a period of five years.

RECURRING:

Staff:

		Minimum Rs.	Maximum Rs.
1 Principal	Rs. 2,000 - 2,500	2,000	2,500
2 Professors	Rs. 1,250 - 1,750	2,500	3,500
4 Professors	Rs. 700 - 1,200	2,800	4,800
16 Assistant Professors	Rs. 500 - 800	8,000	12,800
9 Lecturers	Rs. 250 - 450	2,250	4,050
35 Instructors	Rs. 250 - 450	8,750	15,750
1 Workshop Superintendent	Rs. 500 - 800	500	800
10 Instructors	Rs. 250 - 450	2,500	4,500
10 Store-keepers	Rs. 100 - 200	1,000	2,000
40 Artisans	Rs. 80 - 120	3,200	4,800
Total		34,000	55,500

Average per month ..... Rs. 44,750.

(Continued on page 5.)

Total per year	...	Rs.	537,000.
Library	...	Rs.	23,000.
Maintenance of Laboratories		Rs.	40,000.
Laboratory staff etc.	...	Rs.	100,000.
TOTAL RECURRING expenditure required every year		Rs.	700,000.

MKG.6.Mar.'48.

UNIVERSITY OF TRAVANCORE

The Polytechnic

It is proposed to introduce Diploma and Certificate courses in the following subjects:--

1. Textile Manufacture.
2. Textile Chemistry.
3. Electrical Engineering.
4. Civil Engineering.
5. Sanitary Engineering.
6. Irrigation and Works.
7. Mechanical Engineering.
8. Workshop Foremanship.

The amount required under Capital will be--

Buildings	...	Rs. 600,000.
Equipment	...	Rs. 300,000.
Total.....		Rs. 900,000.

It is expected that 3 lakhs out of this will be available from the University. The total amount will be required in about 3 years.

The recurring expenditure in the first instance is estimated at about Rs. 150,000/- per year.

(42)

TEACHING LOAD ON THE DIFFERENT DEPARTMENTS.

I. Department of Mathematics.

		L	GST
First Year Engineering Degree	...	3	2
Second Year Engineering Degree	...	4	2
First Year Engineering Diploma	...	2	1
Second Year Engineering Diploma	...	2	1
		11	6

Lecture Load	2 x 11 =	22
GST Load	6 x 6 =	36
		58

1 Assistant Professor	L(8)	GST(6)	8	6
1 Lecturer	L(12)	GST(3)	12	3
2 Instructors		GST(20)	-	40
			20	49 = 69

II. Department of Physics.

First Year Engineering Degree			2	2
First Year Engineering Diploma			2	2
			4	4

Lecture Load	2 x 4 =	8
GST Load	6 x 4 =	24
		32

1 Assistant Professor	L(8)	GST(6)	8	6
1 Instructor		GST(20)	-	18
			8	24 = 32.

(Continued on page 2.)

III. Department of Chemistry.

Details as in II.

1 Assistant Professor.

1 Instructor.

IV. Department of Civil Engineering.

		L	GST
First Year Engineering Degree		5	6
Second ,, ,, ,,		5	10
Third ,, ,, ,,	(General)	4	7
Third ,, ,, ,,	(Civil)	13	8
Fourth ,, ,, ,,	(Structural)	11	24
Fourth ,, ,, ,,	(Highways)	13	22
Fourth ,, ,, ,,	(Public Health)	12	23
Fourth ,, ,, ,,	(Irrigation)	10	19
First Year Engineering Diploma			
Second ,, ,, ,,	(General)	4	9
Second ,, ,, ,,	(Civil)	4	3
Third ,, ,, ,,	(Civil, General)	1	10
Third ,, ,, ,,	(Civil, Public Health)	14	21
		10	15

Lecture Load = 2 x 18 2 x 14 ~~1 x 24~~
1 x 46 1 x 2 1 x 24 = 136.

GST Load = 6 x 35 4 x 18
1 x 88 2 x 36
= 442.

578.

3 Professors	L(8)	GST(4)	24	12
7 Assistant Professors	L(8)	GST(6)	56	42
5 Lecturers	L(12)	GST(3)	56	15
19 Instructors		GST(20)		373
34			136	442

V. Department of Mechanical Engineering.

I Year Engineering Degree			-	5
II ,, ,, ,,		..	3	4
III ,, ,, ,,		..	7	12
IV ,, ,, ,,	(Production)	..	11	24
V ,, ,, ,,	(Power)	..	12	23
I ,, ,, Diploma		..	-	2
II ,, ,, ,,		..	3	6
III ,, ,, ,,		..	10	14

Lecture Load = 2 x 6 1 x 40 = ~~52~~ = 52.

GST Load = 6 x 11 3 x 18 1 x 14 = 134.

Total .. 186.

(Continued on page 3.)

			L	GST
1 Professor	L(7)		7	-
1 Professor	L(8)	GST(4)	8	4
3 Assistant Professors	L(8)	GST(6)	24	18
1 Lecturer	L(12)	GST(3)	13	2
6 Instructors		GST(20)	-	110
			52	134

VI. Department of Electrical Engineering.

			L	GST
Second Year Engineering Degree			1	3
Third Year	,,	,,	2	3
Fourth Year	,,	,, (High Voltage)	12	23
,, ,,	,,	,, (Power Supply)	6	11
,, ,,	,,	,, (Communications)	8	15
Second Year Engineering Diploma			5	7
Third ,,	,,	,, (Power)	10	12
,, ,,	,,	,, (Communications)	14	14

Lecturer Load 2 x 6 1 x 52 = 64.

GST Load 6 x 10 1 x 78 = 138.

202.

2 Professors	L(8)	GST(4)		16	8
3 Assistant Professors	L(8)	GST(6)		24	18
2 Lecturers	L(12)	GST(3)		24	6
6 Instructors		GST(20)		-	106
13				64	138

VII. Workshops.

1. Carpentry and Cabinet Making.
2. Smithy.
3. Welding.
4. Masonry.
5. Fitting.
6. Foundry and Pattern Making.
7. Machinists.
8. Plumbing.
9. Engine and Boiler House.
10. Electricians.

1 Workshop Superintendent.
10 Instructors.
10 Store-keepers.
40 Artisans.

MKG.8.Mar.'48.

HOURS OF WORK (35 PERIODS A WEEK)

I Year (Common Degree.)	L	GST	LDF	TL	Prep
Mathematics	3	2	-	5	3
Physics	2	-	2	4	2
Chemistry	2	-	2	4	2
Building Materials & Construction	4	-	-	4	2
Applied Mechanics	1	1	2	4	2
Workshop	-	-	6	6	-
Practical Geometry	-	-	2	2	2
Machine Drawing	-	-	3	3	-
Civil Engineering Drawing	-	-	3	3	-
	12	3	20	35	13

II Year (Common) Degree.					
Mathematics	4	2	-	6	4
Strength of Materials	1	1	2	5	3
Mechanical Engineering	1	1	-	2	2
Electrical Engineering	1	1	2	4	2
~~Electrical Engineering~~ Hydraulics	1	1	-	2	2
Theory of Machines	2	-	-	-	-
Survey	1	-	3	5	2
Civil Engineering Drawing	-	-	3	3	-
Machine Drawing	-	-	3	3	-
Estimating	2	-	-	2	-
Workshops	-	-	3	3	-
	13	6	16	35	15

87

88

46

III Year (Civil) Degree.	L	GST	LDF	TL	Prep.
Structural Engineering	2	2	2	6	3
Hydraulic Engineering	2	1	2	5	3
Geology, Docks & Harbours	3	-	2	5	3
Surveying	2	1	3	6	3
Estimating	2	2	-	4	2
Engineering Economics	3	-	-	3	1
Civil Subjects Miscellaneous	6	-	-	6	6
	20	6	9	35	21

III Year (Mechanical) Degree.					
Structural Engineering	2	2	2	6	3
Hydraulic Engineering	2	1	2	5	3
Theory of Machines	2	1	-	3	3
Heat Engines	2	1	2	5	4
Engineering Economics	3	-	-	3	1
Electrical Technology	2	1	2	5	4
Machine Drawing, Workshops etc.	-	-	8	8	-
	13	6	16	35	18

III Year (Electrical) Degree.					
Structural Engineering	2	2	2	6	3
Hydraulic Engineering	2	1	2	5	3
Heat Engines	2	1	2	5*	4
Engineering Economics	3	-	-	3	1
Electrical Measurements	2	1	6	9	3
Electrical Technology	2	2	3	7	3
	13	7	15	35	17

IV Year (Structural Engineering) Degree.	L	GST	LDF	TL	Prep.
Theory of Structures (Advanced)	2	1	2	5	4
Survey (Advanced)	2	1	3	6	4
R. C. C.	2	1	3	6	5
Structural Steel Work	2	1	3	6	4
Estimating & Specification	1	2	3	6	3
Designs and Drawing	2	1	3	6	6
	11	7	17	35	26

IV Year (Highway Engineering) Degree.					
Roads	4	1	3	8	5
Road Traffic & Administration	2	-	2	4	3
Testing of Materials	2	-	3	5	3
Bridges	2	1	3	6	5
Estimating and Specification	1	2	3	6	3
Drawing and Design	2	1	3	6	6
	13	5	17	35	25

IV Year (Public Health Engineering) Degree.					
Water Supply I	2	1	3	6	3
Do. II	2	1	3	6	3
Sanitary Engineering I	2	1	3	6	3
Do. II	2	1	3	6	3
Architecture & Town Planning	2	-	3	5	6
Drawing, Design & Specification	2	1	3	6	8
	12	5	18	35	26

	L	GST	LDF	TL	Prep.
IV Year (Irrigation Engineering) Degree.					
Irrigation	2	1	3	6	4
Hydraulic Power Development	2	1	3	6	3
Soil Erosion, River Training & Control	2	-	3	5	3
Bridges	2	1	3	6	5
Dam	2	1	3	6	3
Drawing, Design & Specification	2	1	3	6	8
	12	5	18	35	26
IV Year (Mech.) Production Degree.					
Workshop Administration	2	2	-	4	3
Workshop Accounts	2	2	-	4	3
Workshop Appliances & Tools I	2	1	3	6	4
Do. II	2	1	3	6	4
Estimating & Specification	1	2	3	6	5
Drawing & Design	2	1	6	9	6
	11	9	15	35	25
IV Year (Mech.) Power Degree.					
Prime Movers I	2	1	3	6	4
Do. II	2	1	3	6	4
Power Plants	2	2	-	4	4
Auto. & Aero Engineering	3	1	3	7	5
Estimating & Specification	1	2	3	6	3
Drawing & Design	2	1	3	6	6
	12	8	15	35	26

	L	GST	LDF	TL	Prep.
IV Year (Elec.) High Voltage Degree.					
Electrical Machines I	2	1	3	6	4
Do. II	2	1	3	6	4
	2	1	2	5	4
Electrical Transmission	2	1	3	6	4
Generation & Distribution	2	2	-	4	4
Drawing, Estimating & Specification	2	-	6	8	6
	12	6	17	35	26
IV Year (Elec.) Power Supply Engineering Degree.					
Electrical Machines I	2	1	3	6	4
Do. II	2	1	3	6	4
Electrical Design & Manufacture	2	1	2	5	4
Workshop Appliances & Tools II	2	1	3	6	4
Generation & Distribution	2	2	-	4	4
Drawing, Estimating & Specification	2	-	6	8	6
	12	6	17	35	26
IV Year (Elec.) Communication Degree.					
Electrical Machinery I	2	1	3	6	4
Do. II	2	1	3	6	4
Line Communications I	2	1	3	6	4
Do. II	2	1	2	5	4
Radio Communication I	2	1	3	6	4
Do. II	2	1	3	6	4
	12	6	17	35	24

D I P L O M A.

I Year (Common) Diploma.	L	GST	LDF	TL	Prep.
Mathematics	2	1	-	3	2
Physics	2	-	2	4	2
Chemistry	2	-	2	4	2
Building Materials & Construction I	2	-	-	2	2
Survey	1	-	3	4	1
Applied Mechanics	1	-	2	3	1
Workshop	-	-	9	9	-
Practical Geometry	-	-	2	2	2
Machine Drawing	-	-	2	2	-
Civil Engineering Drawing	-	-	2	2	-
	10	1	24	35	12

II Year (Civil) Diploma.					
Mathematics	2	1	-	3	2
Mechanics	1	-	2	3	2
Mechanical Engineering	1	1	-	2	2
Electrical Engineering	1	1	2	4	2
Building Materials & Construction II	2	-	-	2	2
Hydraulics	1	1	-	2	2
Workshops	-	-	8	8	-
Survey	1	-	3	4	2
Civil Engineering Drawing	-	-	3	3	2
Estimating	-	-	4	4	-
	9	4	22	35	16

II Year (Mechanical) Diploma.

	L	GST	LDF	TL	Prep.
Mathematics	2	1	-	3	2
Mechanics	1	2	-	3	2
Mechanical Engineering	1	1	-	2	2
Electrical Engineering	1	1	2	4	2
Building Materials & Construction II	2	-	-	2	2
Hydraulics	1	1	-	2	2
Workshop	-	-	8	8	-
Theory of Machines	2	1	-	3	2
Machine Drawing	-	-	4	4	-
Electrical Engineering II	2	-	2	4	2
	12	7	16	35	16

II Year (Electrical) Diploma.

	L	GST	LDF	TL	Prep.
Mathematics	2	1	-	3	2
Mechanics	1	-	2	3	2
Mechanical Engineering	1	1	-	2	2
Electrical Engineering	1	1	2	4	2
Building Materials & Construction II	2	-	-	2	2
Hydraulics	1	1	-	2	2
Workshops	-	-	8	8	-
Theory of Machines	2	1	-	3	2
Electrical Engineering II	2	-	2	4	2
Electrical Measurements and Measuring Instruments	2	-	2	4	2
	14	5	16	35	18

III Year (Civil) General Diploma.	L	GST	LDF	TL	Prep.
Strength of Materials & Theory of Structures	2	1	2	5	3
Hydraulic Machinery	2	-	2	5	3
Irrigation	2	1	3	5	4
Roads, Railways & Bridges	2	1	2	5	4
Sanitary Engineering & Water Supply	2	-	2	4	4
Surveying	1	1	3	5	3
R. C. C. & Steelwork	1	1	2	4	4
Engineering Economics	2	-	-	2	2
	14	5	16	35	27

III Year (Civil) Public Health Diploma.					
Strength of Materials & Theory of Structures	2	1	2	5	3
Hydraulic Machinery	2	-	2	5	3
Water Supply I	2	1	3	5	4
Do. II	2	1	2	5	4
Sanitary Engineering I	2	1	2	5	4
Do. II	2	1	2	5	4
Drawing & Design					
Estimating & Specification	1	-	2	3	2
Engineering Economics	2	-	-	2	2
	15	5	15	35	26

III Year (Mech.) Diploma.	L	GST	LDF	TL	Prep.
Strength of Materials & Theory of Structures	2	1	2	5	3
Hydraulic Machinery	2	-	2	4	3
Heat Engines	2	-	3	5	3
Electrical Traction & Distn.	2	1	-	3	3
Electrical Machines	2	1	3	6	3
Estimating & Specification	2	1	-	3	2
Electrical Generation	2	1	-	3	2
Electrical Communication	2	-	2	4	3
Engineering Economics	2	-	-	2	2
	18	5	12	35	24

III Year Electrical (Communication) Diploma.					
Strength of Materials & Theory of Structures	2	1	2	5	3
Machine Telegraphy	2	1	2	5	3
Line Communication I	2	1	3	8	3
Do. II	2				3
Radio Communication I	2	1	3	8	3
Do. II	2				3
Electrical Machinery	2	-	3	5	3
Estimating & Specification	2	-	-	2	2
Engineering Economics	2	-	-	2	2
	18	4	13	35	25

Note:

1. Strength of I and II Year Degree and Diploma Classes is taken at 60.

2. Strength of III Year Degree and II Year Diploma (Civil) is taken between 30 and 40.

3. Strength of III Year Degree, Mechanical and Electrical and II Year Diploma (Mech.) and (Elec.) is taken between 30 and 40 each.

4. IV Year Degree is taken at 10 in each branch. III Year Diploma is taken at 15 in each branch except Electrical Power and Electrical Communication where it will be 10.

5

L	means	Lecture
GST	means	Guided Study and Tutorial.
LDF	means	Laboratory, Drawing & Fieldwork.
Prep.	means	Home Preparation hours.

6. Lecture load is calculated on the basis of one lecturer for 30 students and GST load on the basis of one lecturer for 10 students.

COLLEGE OF ENGINEERING,
Trivandrum.

11th December 1947.

(Sd.) D. L. DESHPANDE,
Principal.

REGISTRAR.

MKG.10.Mar.'48.

APPENDIX I.

Statement showing the existing accommodation.

Lecture Halls

L1	1 x 25 x 20	..	500 S.Ft.
L2	1 x 34 x 25	..	850 ,,
L3	1 x 30 x 20	..	600 ,,
L4 & L5	2 x 28 x 20	..	1,120 ,,
L6	1 x 30 x 20	..	600 ,,

(Under construction)

	2 x 30 x 20	..	1,200 ,,
	2 x 30 x 30	..	1,800 ,,

6,670 S.Ft.

Drawing Halls

D1	1 x 56 x 25	..	900 S.Ft.
D2	1 x 30 x 60	..	1,800 ,,
D3 & D4	2 x 30 x 12	..	720 ,,
D5	1 x 30 x 20	..	600 ,,
D6	1 x 30 x 12	..	360 ,,
D7	1 x 20 x 50	..	300 ,,

(Under construction)

	1 x 80 x 30	..	2,400 ,,

7,080 S.Ft.

560 S.Ft.

Library 1 x 28 x 20

Laboratories

S.M.Lab.	1 x 60 x 30	..	1,800 S.Ft.
H.E.Lab.	1 x 100 x 50	..	5,000 ,,
Hyd. Lab.	1 x 80 x 40	..	3,200 ,,
Ele. Lab.	1 x 100 x 50	..	5,000 ,,
Surveying	1 x 28 x 20	..	560 ,,

15,560 S.Ft.

Workshops

Carpentry & Electrical	1 x 70 x 60	..	4,200 S.Ft.
Machine Shop & Foundry	1 x 150 x 30	..	4,500 ,,
Smithy & Fitting	1 x 120 x 30	..	3,600 ,,

12,300 S.Ft.

MKG.10.Mar.'48.

Annexure 4.
Item No.6 of Agenda.

Fifth meeting.

CO-ORDINATING COMMITTEE
OF THE
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M E M O R A N D U M.

Subject:- FACILITIES FOR ADVANCED INSTRUCTION IN HIGHWAY ENGINEERING.

The question of provision of facilities for advanced instructions in Highway Engineering came up for consideration before the (i) All India Council for Technical Education and the (ii) Co-ordinating Committee of the Council, at their first meetings held on (i) 30th April-2nd May 1946 and (ii) 6th-7th August 1946, respectively. It was decided that the matter be referred to the All India Board of Technical Studies in Engineering and Metallurgy for its recommendations in the first instance.

2. The All India Board of Technical Studies in Engineering & Metallurgy considered the question at its first meeting held on the 4th December, 1946. At the suggestion of Mr. McKelvie, Consulting Engineering (Roads), Government of India (Ministry of Transport), who was specially invited to attend the meeting, the Board decided that its recommendations to the Co-ordinating Committee in this matter might be made after the Indian Road Congress had finalised its scheme in this connection. Mr. McKelvie reported however that the Indian Road Congress had made the following recommendations at their last meeting:-

i) The under-graduate course in engineering should be broad based, specialisation in any particular subject being deferred to a later stage. A specialised study in Highway Engineering would be found useful after a short period of experience on road work.

ii) Further specialization should be attempted only after a period of 6 to 7 years of practical work.

3. The Education Committee of the Indian Road

2/..

Congress could not meet owing to the absence of some of its members, but most of their difficulties were settled by correspondence. As a result of this certain recommendations were made as set out in the letter No.IRC.11(5) dated the 14th April 1947 (Appendix I).

4. These recommendations were considered by the All India Board of Technical Studies in Engineering and Metallurgy at their second meeting held on the 5th August, 1947.

The Board was apprised of the views of the Chief Engineers of Provinces viz. that the Highway Engineering Course should be a specialised post-graduate course which students may undertake after they had undergone a broad-based Engineering Course and put in some time on the construction of Highways. The course should, therefore, normally be open to those who are already engaged on this type of work.

The Board was generally of the view that on account of the special nature of the subject it would be more profitable for students to go through a general course in Engineering in the first instance. Highway Engineering may however be provided as an elective subject in the fourth year of the course for the Advanced Diploma or an Honours Degree.

The Board was generally in agreement with the Indian Road Congress in regard to the curricula of studies for the specialised course in Highway Engineering and that as an interim measure the course can be provided at the local engineering colleges pending the establishment of the Road Research Laboratory & a chair of Highway Engineering at the Delhi University.

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*Sood 200 CPS

Appendix 1 to Annexure 4
Item 5 of Agenda.

INDIAN ROADS CONGRESS

No.IRC 11(5)

Dated New Delhi, the 14th April 1947.

From

H. Sunder Rao, Esquire,
Secretary, Indian Roads Congress,
Jamnagar House, Shahjahan Road,

To

The Secretary to the Government of India,
Transport Department, New Delhi.

Subject:- HIGHWAY ENGINEERING - POST-GRADUATE COURSE RECOMMENDATIONS OF THE EDUCATION SUB-COMMITTEE OF THE I.R.C.

Sir,

Reference your letter No. PL.2(73)/45 dated the 29th March 1947.

2. I am directed to enclose an extract from the recommendations of the Education Sub-Committee on the subject of post-graduate training in Highway Engineering.

3. The Committee have recently further recommended that the Chief Engineers of Provinces should be consulted regarding the Administrative feasibility of releasing their serving engineers for a post-graduate course of Highway Engineering. They also recommend that one of the senior members of the road delegation now proceeding to the U.S.A. and U.K. should be briefed to study the current practice in these countries in regard to the stage at which the post-graduate specialisation in Highway Engineering is generally sought by engineers interested in the subject.

4. It is understood that this subject was discussed at the Conference of Chief Engineers which met at Delhi in November 1946 and that their opinion is available in the Transport Department.

5. I am to request that the Transport Department may kindly take further action on the recommendation of the Education Sub-Committee that one of the senior members of the Delegation should be deputed to study the practice in U.S.A. and U.K. and to make a report.

I have the honour to be,
Sir,
Your most obedient servant,

Sd/- (H.Sunder Rao)
Secretary,
INDIAN ROAD CONGRESS.

Encl.
1 extract.

Extract from the Report of the Education Sub-Committee of the Indian Roads Congress dated September 1945 on Post-Graduate Training for Highway Engineers.

II. 5. The Sub-Committee is of the view that, generally speaking, specialised instruction in Highway Engineering (apart from what is provided in the ordinary Civil Engineering degree courses on the lines suggested in item 1 above) should take the form of a post-graduate course and should be undertaken after the candidate has obtained a Civil Engineering degree. The Sub-Committee realises that this would mean, in the case of Universities which prescribe a 4 years' course of study for a Civil Engineering degree 5 years' study at the College and this might be too long a period because probably few students would be willing to afford the time and the money. The Sub-Committee is, however, of the considered view that every student should have a thorough basic Engineering Training initially as specialized training is of little value if the basic training is defective. The post-graduate course would perhaps therefore attract for the most part Engineers already engaged in Highway Engineering.

6. The Sub-committee is of the view that post-graduate courses should normally be of twelve months' duration 6 months being devoted to theoretical training and 6 months to practical work for graduates who have had no great experience of such work.

7. The Sub-Committee would suggest the following syllabus for the post-graduate course:-

(a) Evolution of the Road.
(b) Traffic census and the classification of roads.
(c) General principles of road design.
(d) Road foundations and Road drainage.

(e) Principles of waterbound macadam construction.
(f) General theory of road binders.
(g) Tar surfacing.
(h) Asphalt surfacing.

(i) Concrete roads.
(j) Other types of modern surfacing.
(k) Soil mechanics and soil stabilization.
(l) Road Making machinery.

(m) Quarrying.
(n) Testing of road aggregates and road binders.
(o) Road Architecture and traffic control.
(p) Regional Planning of highways.

(q) Statstical method.
(r) Road administration and the Road Fund.
(s) Economics of road and road transport.
(t) General principles of road maintenance.

(u) Geology in relation to road engineering.
(v) Chemistry in relation to road engineering.
(w) Bridge Engineering.
(x) Miscellaneous.

8. The Sub-committees consider that the above syllabus can be covered in about 160 lecture hours. They are also of the view that due weightage should be given to the importance of each subject in apportioning those lecture hours between individual subjects.

3/..

9. The Committee consider that as far as possible permanent lecturing staff should handle the post-graduate course in Highway Engineering. Pending however, the training of suitable personnel in lecturing work, external staff who are specialists, could assist in these courses on a part-time basis.

10. The courses can, with advantage, be arranged in the local Engineering Colleges and latter on at Delhi in conjunction with the Road Research Laboratory and the Mitchell Chair of Highway Engineering as soon as these are established.

200 CPS
SOOD

Annexure 5
Item No.6 of Agenda

(49) Fifth Meeting

CO-ORDINATING COMMITTEE
OF THE
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

M E M O R A N D U M

Sub: DRAFT RULES FOR THE CONDUCT OF ALL INDIA DIPLOMA AND CERTIFICATE EXAMINATION.

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In pursuance of the decision of the Co-ordinating Committee of the All India Council for Technical Education arrived at its second meeting held on the 5th February 1947, the draft general rules and regulations for the award of All India Diplomas and Certificates were placed before the All India Boards of Technical Studies for their consideration.

The Board of Technical Studies in Applied Art deferred consideration of the rules pending the framing of syllabuses and their adoption. Regarding All India Examinations in Commerce, the recommendations are those of the Examination Committee of the Board and are yet to be placed before the full Board.

2. While carrying out a preliminary examination of the rules at its meeting in February 1947, the Co-ordinating Committee framed certain issues on which they desired to have the views of the Boards. The views of the Boards are given below:-

1) On the question of supplementary examination in addition to the Principal one, the four All India Boards of Technical Studies viz. Engineering and Metallurgy, Architecture and Regional Planning, Textile Technology and Commerce and Business Administration, were of the opinion that there should be no supplementary examination. The All India Board of Technical Studies in Chemical Engineering and Chemical Technology recommended that a special examination should be held approximately

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six months after the principal examination every year for the following types of the students:-

a) "Compartment" candidates

b) Candidates who have passed in all subjects in the principal examination but have failed to secure the necessary aggregate.

c) Individual cases at the discretion of the Examination Committee of the Board.

ii) The Boards were of the view that their Examination Committees should scrutinize question papers etc., and satisfy themselves in regard to the standard of the examination.

iii) On the question of question papers allthe Boards were agreed that this was essential and that the Examination Committee should arrange for the moderation of the question papers.

iv) The Boards were unanimous that reports should be received from each examiner and also from the Examination Committee on the Examination as a whole.

3. The draft rules recommended by the various Boards have been consolidated as in Appendix 1. As far as possible the Council should have a uniform set of rules for different examinations. There have been some point of difference between the various Boards. In this connection attention of the Committee is invited to Rules Nos. 4, 6(a), 6(b), 9, 10, 11, 12, 17, 22, 24(a), 24(e), 25(b), 25(c), 25(d), 29, 33.

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Appendix 1.

GENERAL RULES FOR THE CONDUCT OF THE ALL INDIA DIPLOMA AND CERTIFICATE EXAMINATIONS.

1. In these rules

BOARD means All-India Board of Technical Studies.

COUNCIL means All-India Council for Technical Education.

EXAMINATION means any examination conducted by the All-India Board of Technical Studies.

CONTROLLER OF EXAMINATIONS means any officer appointed by the Board for the purpose of arranging the Board's examination.

EXAMINATION COMMITTEE means a Committee appointed by the Board for making all general arrangements in connection with the Board's examinations.

LOCAL COMMITTEE means the Local Examination Committee appointed by the Examination Committee for the actual conduct of the examinations.

2. The Examinations shall normally be held once a year in April/May on the dates to be announced by the Board.

3(a) A candidate shall not be admitted to the examination if his attendance falls short of 75 per cent of the possible attendance in each year of the course.

(b) The examination Committee may in special cases, on the recommendations of the Principal concerned, condone shortage of attendance if such shortage arises out of the abonormal conditions outside the control of candidates.

Engineering) 4. Only candidates from affiliated institutions
Commerce Chemical)
Engg. Textile) shall be permitted to take the examination.

Architecture) 4. As an interim measure private candidates from cities in which there is no architectural school shall be permitted to sit for the Intermediate Examination on production of proof of having worked for four yers in an Architects office approved by the Board and on production of testimonies. Such candidates will have passed the elementary and preliminary examinations of the course before offering themselves for the Intermediate Examination.

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To qualify for admission to the All-India Diploma Examination in Architecture, candidates shall have to work for three years in an Architects office approved by the Board after passing the Intermediate Examination and on production of proof of having worked for that period and on production of testimonies.

5. Except otherwise provided English will be medium of examination in all subjects.

Engineering Commerce) 6(a) Every candidate shall submit
Chemical Engg.)
Textile.) his application for admission in the prescribed form through the Principal of his institution by a date duly notified.

Architecture) 6(a) Every candidate shall submit his application for admission in the prescribed form through the Principal of his institution or through the employer with the testimonies certified, by a date duly notified.

(b) The application must be accompanied by Examination Fees according to the following schedule:-

All-India Diploma Examination

(i) Whole Examination.	Engineering. ..	Rs. 60/-
	Commerce ..	Rs. 50/-
	Chemical Tech...	Rs. 50/-
	Textile Tech. ..	Rs. 40/-
	Architecture. ..	Rs. 80/- of which Rs. 40/- will be for testimonies.
(ii) Part Examination.	Engineering....	Rs. 15/- per student.
	Commerce ..	Rs. 20/-
	Chemical Tech...	Rs. 10/- per student.
	Textile Tech.	Rs. 10/-, per student..
	Architecture.	??

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All India Certificate Examination

(i) Whole Examination	Engineering ...	Rs. 5/- per subject
	Commerce ...	Rs. 30/-
	Chemical Tech...	Rs. 5/- per subject
	Textile Tech....	-do-
	Architecture ...	Rs. 50/- of which Rs. 25/- are for testimonies.
(ii) Part Examination	Commerce ...	Rs. 15/-

7(a) Fees once paid shall NOT be refunded but a candidate who has paid his Examination fee and who either for illness or for anyother valid cause fails to appear at the examination (appearing at a part of the examination being considered as appearing at the whole examination) will be permitted to present himself at ONE subsequent examination without the payment of an additional examination fee subject to the condition that the candidate has submitted to the Controller of Examinations an application supported by a medical certificate in case of illness or documentary evidence in other cases within one monthof the commencement of the examination.

(b) Examination fees of the candidates who are not permitted to appear are refundable.

8. Any candidate found using unfair means in connection with the Examination shall be instantly expelled from the Examination Hall and shall not be permitted to appear for the rest of the examination. Such candidates may also be debarred from appearing at the examination for a period which is considered appropriate by the Boards.

9. A candidate shall be declared to have passed the Examination if he obtain:-

(a) Not less than 40% (Engg. Chemical Tech. Textile Tech., Commerce)
Not less than 50% (Architecture)

P.T.O.

of the marks in each of the papers of the written examinations.

(b) Not less than 40% (Engg., Chem. Tech., & Textile Tech) / 50% (Architecture). in each of the Practical Examinations in the testimonies for each subject.

(c) Not less than 40% (Engg. and Cehmical Technology) marks in the Project work in each subject.

(d) Not less than 50% (Engineering & Textile Technology) / 40% (Chemical Technology) / 30% (Commerce) of the marks allotted to Home work, Class work and periodical examinations in each subject, and

(e) 50% marks in the aggregate.

Engineering, Chemical Technology, Commerce, Textile Technology — 10. Successful candidates who obtain not less than

(a) 70% of the total marks in the aggregate will be placed in the First Class and their names will be arranged in order of merit.

(b) 60% but less than 70% of the total marks in aggregate will be placed in second class and their names will be arranged in order of merit.

(c) All other candidates will be placed in Pass Class and their names will be arranged in alphabetical order.

Architecture — 10. The subjects for the examination will be grouped as follows:-

Design Group

Construction Group

Historical Group.

Successful candidates obtaining not less than 80% in any group will be awarded distinction in that group.

The names of successful candidates will be arranged in alphabetical order.

Engineering, Chemical Technology, Commerce Textile Technology — 11. To qualify for First and Second class a successful candidate must pass the entire examination at one sitting.

Engineering, Chemical Technology, Textile Commerce — 12. A candidate who has failed in not more than two subjects but has secured 50% of the aggregate in the remaining subjects shall be permitted to qualify by

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Chemical Technology — 22. The Board shall appoint a Controller of Examinations but for the present, an officer of the Ministry of Education shall act as such.

23. The Local Committee shall appoint a Superintendent of Examinations who shall be co-opted by the Committee as one of its members.

24. The duties of the Local Examination Committee shall be:-

a) To scrutinize the applications of candidates for the examination.

Commerce — a) To advise the Controller of Examinations regarding the admisibility of applications for the examinations and subject to confirmation by the Controller to admit candidates to the examinations.

b) To appoint invigilators.

c) To make all other arrangements for the smooth conduct of the Examination.

d) To receive and to make arrangements for the distribution of question papers to the Examinees, also to make arrangements for the collection of answer papers from the Examinees and to transmit the answer papers to the Examiners.

Engineering, Chemical Technology, Commerce, Textile Technology — e) To report to the Board / Examination Committee (Commerce) cases of candidates who are found to have used unfair means in the examination.

Architecture — e) To deal with the cases of candidates who are reported to have used unfair means in the examinatiom.

f) To submit to the Board / Examination Committee (Commerce) a Report on the Examination.

25(a) The Examination Committeeshall appoint Paper Setters and Examiners as well as Moderators and Scrutinizers out of the panel of Examiners formulated by the Board.

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Engineering) Textile Technology) (b) There shall be two paper setters and examiners in each writtern paper.

Chemical Technology) (b) There shall be two paper setters and examiners in each of written papers one of whom shall be an external examiner.

Commerce)---- (b) There will be one paper setter and examiner in each written paper.

(c) The Examination Committee shall nominate four persons (Engineering, Chemical Technology, Textile Technology, Architecture) two persons (Commerce) to act as Paper-Setters and Examiners in each subject in order of preference.

Engineering) Chemical Technology Architecture) Textile Technology) ---(d) The Controller of Examinations shall extend invitations to the first two nominees. If for any cause any or both of them are unable to act as such, the Controller shall extend invitation to the remaining nominees in order fixed by the Committee, to fill in the vacancy.

Commerce)------ (d) The Controller of Examinations will extend invitations to the first named examiner. If for any cause he is unable to act as such, the Controller shall extend an invitation to the second named examiner on the list to fill in the vacancy.

(e) Ordinarily the Paper-Setter will also be the Examiner.

26. The Examination Committee shall arrange for the moderation of question papers.

Engineering) Chemical Technology Textile Technology) 27. For each subject of the Practical examinations, there there shall be one internal and one external examiner, who would jointly examine each examinee or group of examinees.

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Engineering) Chemical Technology) Textile Technology) 28(a) Ordinarily each candidate will have his practical examination in his own institution.

(b) The Local Committee in consultation with the Principal of the institution shall prepare a programme of practical examinations.

29. The paper setters & examiners and moderators shall be paid remunderation at the scale laid down below:

	Commerce	Co	Engineer Eng	Che: Engg.	Architecture.	Textile
i) Setting of a paper.	Rs.60/-(Dip) Rs.50/-(Cert)	Rs.50/-	Rs.60/-	Rs.50/-	Rs.50/-	
ii) Examining the whole of each answer script.	Rs. 2/-(Dip) Rs.1/8/-(Cert)	Rs. 2/-	Rs. 2/-	Rs. 2/-	Rs. 2/-	
iii) Examination of testimonies	-	-	-	Rs.5/- per candidate per subject.		
iv) Oral Examination	-	-	-	Re.1/- per canditate.		
v) Examining session -al Drawings, Designs & Projects.		Rs.6/- per candidate	Rs.6/- per candidate		Rs.5/- per candidate	
vi) Practical examination.		Rs.4/- per candidate per subject	Rs.4/-per candidate per subject		Rs.4/-per candidate per subject.	
vii) Fee of. Superintendents.	Rs.20/-per full day Rs.10/-per half day	Rs.10/- per day	Rs.10/- per day	-	Rs.25/- per day.	
viii) Invigilators	Rs.10/-per full day Rs.5/- per half day.	Rs.5/- per day	Rs.5/- per day.	-	Rs.5/-per paper	
ix) Fees for Moderators	Rs.100/- for the entire examination.	-	-	Rs.100/- for the entire examination.	Rs.100/- for the entire examination.	

Note- Engineering except in the case of internal examiners, the minimum for each appointment as Paper-Setter & Examiner shall be Rs.50/-

Chemical Technology minimum, remuneration for an examiner is Rs.50/-

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30(a) The Examiners shall submit their results to the Controller of Examinations before the date fixed by him for the purpose.

(b) The Examiners' award as shown in the Award-sheets submitted by them shall be final unless for until they are revised by the examiners themselves.

31. The tabulation of results shall be based on Award-sheets submitted by the Examiners.

32. The Controller shall, on receipt of answer books scrutinize the marking and see that no questions are left unmarked, recheck the marks and tally the same with the Award-sheets.

Engineering, Commerce, Architecture, Textile Technology

33. The Examination Committee will consider the results, and after declaring the same, shall report to the Board.

Chemical Technology

33. The results will be considered by the Examination Committee who will make recommendations to the Board.

34. Any additional rules for the guidance of the Examiners, the Examinees, the Moderators, the Tabulators and Invigilators can be framed by the Board or its Examination Committee and shall be enforced by the Local Committee provided they are not in conflict with the General Rules specified above.

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Annexure 6. Fifth Meeting.
Item 7(a) of Agenda.

CO-ORDINATING COMMITTEE
OF THE
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M E M O R A N D U M.

Certain private organisations who have established new technical institutions in the Provinces, or propose to do so, have applied for financial assistance from the Government of India. The Government would like to have the advice of the Committee as to whether any such applications should be entertained and, if so, on what criteria, and how they should be dealt with?

In this connection it may be mentioned that the Government of India are committed to the establishment of the Eastern and the Western Higher Technical Institutions near

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Calcutta and Bombay respectively within the quinquennium 1946-50, and have also, notwithstanding the present financial stringency started giving grants and loans to some of the more important technical institutions with a view to strengthening and developing them, as recommended by the Council.

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to establish (with the field experience acquired through the rehabilitation of our present refugees) a teacher training institute for agriculture, industrial crafts, and social services, to begin functioning by the end of 1948. Initially we should aim at producing about 100 top administrators and teachers within two years. Simultaneously these teachers should develop programs, projects, techniques, tools and curricula for the 9th and 10th grades of rural pupils. This will be an entirely different kind of an education compared to our present literary, agricultural, or technical schools. The high school graduates thus produced in industrial, agricultural and social services techniques, men and women, after two years of training will be qualified to work in multi-function squads in a cluster of villages and regenerate the entire productive capacity of rural life.

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Annexure 7 — Fifth Meeting. (46) 128
Item No. 7(b) of Agenda.

CO-ORDINATING COMMITTEE
OF THE
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M E M O R A N D U M.

Establishment of Teachers' Training College of Rural Technology in India.

Mr. B.N. Gupta has addressed His Excellency Mr. M. Asaf Ali, Ambassador of India in U.S.A., on the above subject vide his letter dated the 19th November 1947 extracts from reproduced below:-

Extracts from a letter dated the 19th November 1947 from Mr. B.N. Gupta to His Excellency Mr. Asaf Ali, Ambassador of India in U.S.A.

When I had the pleasure of lunching with you at the Embassy you will remember inquiring of me the ambition of my life, to which you will recall my replying that I am interested in an entirely different kind of education for our country. After long discussion I also asked you a key question: "What do you consider the one problem of India?" which you summed up in one word -- Production. What kind of production and how to begin has bothered me actively for the past five years. The following are some thoughts on which I seek your advice and guidance.

2. India consists basically of two types of economies, the urban and the rural. Our urban economy consists of about 10% of our population, or about 50 million people, who live and perform economic services on the Balkan level. In this urban economy at the most four million workers are employed in various types of factory industries. Modern industrial and commercial cities of Bombay, Calcutta, etc., can be compared with corresponding cities in Western Europe. This urban economy is receiving adequate attention for its

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regeneration, which will provide the country with the essential industrial framework. Its development will depend not only on the importation of industrial equipment and know-how but also on the development of our rural economy in which 80% of our people live. Unless the urban economy is integrated in the rural economy it will only be a facade, as it has been and as it is in all high population and low resources cum industries countries. Our rural economy consists of about 80% of our population, or about 300 million of our people, who live a steadily diminishing standard of life. Their standard of living has been diminishing for the past 150 years. The population pressure has reduced practically 100 million of them to the state of destitution and starvation. The basic reason for this is that during this period the population has about doubled, or has increased by about 200 million people, while the arable land area has not increased relatively.

3. In India of 150 years ago not only were there only 200 million people to feed but at least 25% of them were employed in non-agricultural production of the medieval arts and crafts type on a progressive scale, which has now been mostly eliminated by the products of the foreign and domestic machine industry. Now that our population is about 400 million people only 10% of them are employed in so-called handicrafts, on a recessive scale. Therefore our agricultural economy and society consisting of not less than 200 million people is suffering from pressure of population from two directions:

(a) Natural increase of population, and

(b) Transfer from old rural industries to share cropping agriculture and personal service.

4. It is no exaggeration to state that Mother India has 200 million more children to feed while her agricultural and rural-industrial capital, tools, and techniques of production are the same as when her population was about 200 million. How can 200 million more people be fed and live from the same resources and techniques except at a destitution level, which is what we have? How to remedy this situation with what we have

is the crux of the Indian problem. Unless this problem is attacked and the solution is on the way, further natural increase of population and the resulting destitution will make our modern industrialization take the shape of a lopsided facade.

5. This problem of destitution of our rural society (in which the present high agricultural prices are a temporary phase) needs to be high lighted in another way. As the population deriving its livelihood from agriculture during the course of 150 years increased from 100 million to 300 million under about the same arable area and techniques, three sets of impoverishing forces set themselves in motion:

(a) Not only the agriculturists became poor due to a tripling of their numbers without a relative increase in their production, but

(b) Their poverty made them poorer customers of the 50 million engaged in handicrafts, making them also poor, and

(c) As these two sections became impoverished the 50 million who derived their livelihood as an intermediary society of traders and professional men also became impoverished.

6. This completes the picture of the basic society of India today. It is a vast, fathomless ocean of poverty and destitution of the worst sort, upon which floats the ambergris of a few rich industrialists, traders, and landlords.

7. A realization of this population pressure and the analysis of forces which set us on the path of destitution will reveal its remedies. In order to reverse these forces the remedies lie in two directions basically:

(a) Since there are 200 million more mouths to feed from the same cultrable area of land, we should increase the intensity of cultivation through intensive techniques and better hand tools, which calls for intensive training of the villager in the use of these techniques and tools. This process must be completed within ten years; otherwise our population growth and further destitution will overwhelm our industrialization. This is a problem of mass agricultural education of the tens of millions of villagers in each province -- not in the three "R"s, for which the villager has no use. It is through the association of intensive techniques and tools for increasing his production and the resulting benefit that he will learn the three. "R"s, and thus make use of literacy also. This calls

for an entirely different system of adult education for millions of illiterate villagers for the improvement of their productive capacities. Neither the present agricultural colleges nor the agricultural departments are equipped to provide this type of mass horizontal adult education to the millions.

(b) Intensive agriculture cannot be practiced when the pressure of another 200 million people on the same arable area leaves little room for the plow to turn around. Therefore, simultaneously with the intensification of agricultural techniques and tools there must proceed the process of lifting population pressure from land through revitalized and efficient village industry of a type which will transfer at least 100 million of our agricultural population to decentralized village industry within ten years. This would require the establishment in each district and Tehsil town a teaching and production type of vocational work-schools which will teach the villagers in at least the following five basic techniques with their various ramifications:

(1) Spinning, weaving and clothing.

(2) Carpentry and all forms of woodwork.

(3) Masonry, road-making, and processing of stone and clay.

(4) Smithing and metal crafts.

(5) Leather works and intermediary small crafts.

Along with these techniques should be taught the connecting links of bookkeeping, marketing, cooperative, financing, administration, warehousing, and transportation. Neither the present engineering colleges nor the industry departments' schools are constituted or equipped to impart the realistic training required to millions of our villagers.

8. Cultural nellieu or lethargy is the most tenacious retarding influence against progress in ancient civilizations like those of India and China. The present uprooted state of about five million of our people in East Punjab not only calls for their effective rehabilitation but also presents a once-in-a-century opportunity to select from this mass of uprooted humanity good young timber, men and women, and train them for the service of regenerating our 300 million villagers. This is a primary obligation of the Government if it represents the majority and also the most backward section of our society.

9. How is all this to be done? We should immediately begin selecting trained and experienced American and Indian personnel

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to establish (with the field experience acquired through the rehabilitation of our present refugees) a teacher training institute for agriculture, industrial crafts, and social services, to begin functioning by the end of 1948. Initially we should aim at producing about 100 top administrators and teachers within two years. Simultaneously these teachers should develop programs, projects, techniques, tools and curricula for the 9th and 10th grades of rural pupils. This will be an entirely different kind of an education compared to our present literary, agricultural, or technical schools. The high school graduates thus produced in industrial, agricultural and social services techniques, men and women, after two years of training will be qualified to work in multi-function squads in a cluster of villages and regenerate the entire productive capacity of rural life.

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Annexure 8 Fifth Meeting.
Item No. 7(c) of Agenda.

CO-ORDINATING COMMITTEE
OF THE
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M E M O R A N D U M.

Establishment of a Central Geophysical Institute.

The Geophysical Planning Committee appointed by the Government of India to consider a report on the question of organising and developing in India institutions dealing with the study of Geophysics has made the following recommendations.

"Central Geophysical Institute.

Professor Saha has prepared a plan for a Central Geophysical Institute in India and various Universities and Scientific Institutions have expressed their views on it. The proposed Institute involves on a tentative estimate a non-recurring expenditure of about 15 lakhs and a recurring expenditure of about 4.3 lakhs per annum.

(i) The Committee is of opinion that in order to expedite the development of Geophysics in this country, Indian Universities teaching M.Sc. courses in Geology, Physics and Mathematics should institute a course in Geophysics for the M.Sc. degree. Only B.Sc. students taking combinations of at least two of these three subjects should be allowed to take the course. There ought to be a separate Department of Geophysics, with proper geophysical staff.

(ii) The Committee recommends that the Government India should give adequate financial aid to such Universities as satisfy conditions in para (i) and are considered suitable for such purpose by the Standing Committee.

(iii) The Committee further recommends that in order to give effect to these ideas, the Government should appoint an officer who should get into contact with universities and other institutes of university rank. The officer selected

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for the purpose should be a technical man having a sound knowledge of Geophysics, or Physics or Geology. The Officer should report to the Standing Committee which would advise the Government on the matter.

(iv) If for any reason the Central Government is unable to assist the universities, the Central Geophysical Institute should be started immediately and should deal with both post-graduate teaching as well as post-M.Sc. teaching and research as contemplated in the report on the Central Geophysical Institute. Any duplication between the Universities and the Central Geophysical Institute should be avoided."

2. This plan (Appendix A)* was circulated to the Universities and Scientific Research Institutions and these bodies generally welcomed the formation of a Central Geophysical Institute and several of them expressed willingness to introduce teaching of Geophysics in accordance with the terms of item (ii) of the Resolution in the preceding paragraph.

* Not enclosed

3. The aims of this Institute as proposed by the Planning Committee for Geophysics are not merely the teaching of pure Geophysics but the training of Applied Geophysicists, capable of exploring the oil and mineral resources of the country.

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Annexure 9 — Fifth Meeting.
Item No. 7(d) of Agenda.

CO-ORDINATING COMMITTEE
OF THE
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M E M O R A N D U M.

Practical and theoretical training of officers recruited to the Explosives Department in (i) Petroleum technology (ii) Technology of Explosives manufacture, and (iii) Technology of compressed gas cylinders.

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The Department of Explosives is concerned amongst others with the administration of Petroleum Act, Explosives Act and Compressed Gas Cylinders Rules. It will be appreciated that officers recruited to this Department should have at least an adequate grounding in -

i) Petroleum technology,

ii) Technology and Explosives manufacture,

and iii) Technology of Compressed Gas Cylinders,

both theoretical and practical. As hardly and facilities in the above fields exist in the country at present, greatest difficulties are experienced in finding suitable candidates for appointment.

(i) Petroleum technology. - A post-graduate course in Petroleum Technology could perhaps be added on to any educational institution where Applied and Industrial Chemistry already forms a course. This must, however, be followed up by practical training in a Refinery, the only one in India being the Assam Oil Company's Refinery at Digboi.

The Requirements of officers of this particular Department are however limited. But such trained persons in Petroleum Technology may find scope in the existing petroleum Refinery or in future ones.

(ii) Explosives. - This sphere is more difficult. A post-graduate degree in Industrial and Applied Chemistry must doubtless form basis for any body who desires to specialise in this branch. The specialisation can, however, be only

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obtained first in the Explosives Works and then in Research Laboratories attached thereto.

The Defence Ministry have limited facilities for their own officers in the Ordnance Factories and Laboratories. With the development of the manufacture of Civil Explosives which we have in view, it is only natural to assume that the facilities at the disposal of the Defence Ministry would be coordinated to the best advantage of the Civil Administrations also.

(iii) Compressed Gas Cylinders. - This sphere is still more difficult. Manufacture of Compressed Gas Cylinders is primarily a subject for the Metallurgical Department to take up until at least a bigginning in the manufacture is presaged. no useful purpose will be served in following the matter up [illegible].

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Annexure 10. Fifth Meeting.
Item No.7(d) of Agenda.

CO-ORDINATING COMMITTEE
OF THE
ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION.

MEMORANDUM.

Printing and Allied Trades -- Establishment of Technical Institutes.

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The Printing industry in India has largely grown up in a very haphazard way. There are a few big presses capable of turning out high-class work. The reason for this is that the superior staff have not the time to attend to the details of work and cannot watch a job through at every stage. The workmen themselves have no specialised training in the accepted sense of the terms. The result is the industry in this country is on the whole exceedingly backward and incapable of executing really high-class work.

2. The printing industry is divided into two sections:

(i) Government printing where both Central and Provincial Governments have their own presses, and

(ii) Private presses.

In regard to (i), the superior staff consists of persons who have been sent for training abroad. But the actual industrial staff are recruited from the open market from among men who have had a smattering of printing in private presses, sometimes only petty bazar presses. These men pick up what they can in the course of their service. As regards (ii), the same conditions exist in private presses. It is only in the larger private presses that fully trained persons in the art of printing and allied trades occupy key positions. The industrial staff pick up what they can in the course of their duties.

3. Position abroad: Full information in regard to the system of training abroad is not available and will have to be obtained. It is understood that a Compositor, for instance, has to spend at least 5 years under training. He is then granted a diploma of proficiency and becomes a full-fledged Compositor.

His avenues of promotion are limited to the composing branches where his spcialised knowledge is made use of to the best advantage. It would be necessary to work out a scheme in this country which would give similar results. At the present moment, there are many workers who are "Jacks of all trades and masters of none". A man who is a Compositor today will probably find himself a Machineman to-morrow and so on. It seems necessary to canalize the various trades that go to make up the art of printing as a whole.

4. Measures that seem likely to achieve this result:

The establishment of Schools of Printing seems to be a crying necessity. In these schools, workers should be trained as artisans in the various branches of printing. The period of training will have to be fixed so as to cover a highly advanced course in the particular trade. This will secure an even flow of higly trained artisans for employment throughout the country. Such a scheme would also help to stabilise wages and to prevent cut-throat competion and drift that exists at present. Printing work actually has no "value". A hundred different quotations could be obtained for the same job from a hundred different presses. By a regulation in wages and a further consistency in the"value" of printing work. Cut-throat competion would be eliminated to a large extent.

5. Higher training: School or institutions should be capable of imparting higher training for superior posts in all presses, something corresponding to the Master Printer's course of the London School of Printing. It may be necessary for this purpose to obtain experts in the trade from abroad. Machinery suitable to each worker will also have to be obtained. The Master Printer's course could suitably be introduced with provision of a fairly high premium so that well-educated men of means would be in a position to become Master Printers.

6. The number of schools or institutions to be erected will have to be worked out after a compelete survey of the

printing requirements of the country. They could all be largely self-supporting by taking in regular work from the public or Government which could be charged for. It would also be necessary to enlist the sympathies of the printers in the country with any scheme for provinding better material and man power for the work to be turned out by them. How private printers would react to such a scheme is not known at the moment, but a questionnaire on the subject might go a long way towards eliciting their opinions in regard to this.

7. These are the mere outlines of what is desirable. There is a lot of spade work to be done before any scheme can be contemplated. Information has to be obtained from abroad as to the methods of training, the period of training, the syllabus of training, etc. This will all take time.

"Sharam" 100-8-4-48.Dlh."

(73) 142

Coordinating Committee
of the A.I.C.T.E.

Appendix A to Annexure 10
Item No. 7 (d) (2) of Agenda.

Fifth Meeting.

Scheme for the establishment of a School of Printing in India.

At the instance of the All India Board of Technical Studies in Applied Art, Mr. H.K.Das, a member of the Board prepared a comprehensive scheme for the establishment of a School of Printing in India. A copy of the scheme is attached. The issues raised by the Ministry of Works, Mines and Power in their Memorandum are mostly covered by the scheme.

The Board considered the scheme at its meeting held on the 18th November, 1947 and felt that one school of this type would not be sufficient for the whole of India. The Board resolved that copies of the scheme might be sent to the various Provincial Governments with the request that they may consider the question of establishment of such schools within their

jurisdiction and to let the Board have their comments on the scheme. The Provincial Go ernment were accordingly addressed in the matter.

The members of the Board in Printing profession were also requested to explore the possibilities in the matter of financial assistance that could be had from the printers themselves for the establishment of such schools.

PCS/ 100 GPS.
N.Delhi. 14.4.48.

ALL INDIA BOARD OF TECHNICAL STUDIES IN APPLIED ART.

Scheme for a Printing School.

(PART I)

THE NEED FOR TRAINING CRAFTSMEN IN THE PRINTING INDUSTRY :-

It is felt that one of the major problems facing the Printing Industry, at this time, is the number of craftsmen and the skill of the craftsmen. Both are numerically too small and can only be remedied by organised training.

In the present industrial way of life every person is a consumer of industrial products and some are both consumer and producers. Therefore if the aim of the education is to prepare one to live and to make a living, the educational program must provide first general education for industrial consumer and secondly specialised education for the industrial producers.

Food and Textile industries are major industries and every person is a consumer of these products both of which are essential to the physical welfare of man. The Printing and graphic arts industry is also a major industry and has practically 100% consummer value and is related to the mental development of man. These basic major industries therefore, should have an important place in our educational program. This subject should be organized laboratories of learning in which the student is given an opportunity to develop his analytical and creative abilities, both mental and physical because the analytical and creative mind is essential to success in this industrial age. Education and Industry are vital in the new conception of life. It will be well for us to experiment with a simplest type of equipment installed in a secondary school. This laboratory activity involves only the most elementary methods largely to hand type setting, hand fed presswork, hand bookbinding, printing

from wood cut linoleum blocks and new slik screen process.

Students of 10-12 years one year about 4 hours a week trained for. This should have no direct trade training objectives.

We are on the edge of great expansion period. The latter war has given printing a great impetus and the equipment manufacturers are swamped with orders. What are we going to do to man this equipment specially to raise the skill of the present personnel to take full advantage of the new developments.

In England there are many established printing schools in large towns fully equipped to give part time training to apprentices engaged in the trade and evening classes for those who are unable to be released during the day.

Apprentices in busy works do not have the opportunity to concentrate on the particular subject, he wishes to specialise. The chief reason is because the man under whom the apprentice works, has no time to teach. He is on production work for his boss. The apprentice therefore does errand work. If he is clever enough he picks up whenever he finds an opportunity to avail. Technical skill of apprentices can greatly be improved by systematic training guided by craftsmen teachers.

I have written to various printing schools in England for their prospectus and have made notes of each school from whom I have had reply. Notes are attached.

The average time for training varies from two to five years. For executive two years study would be sufficient. But we want more of craftsmen. Their training period may be 2 to 3 years full time and 5 years for part time apprentices drawn from the trade.

A student after completion of his course will have the knowledge and much of the ability of a journeyman. Then on being absorbed in the trade he will use his tools in the right way. Speed and efficiency will develop further as time goes on.

The printing industry offers a great variety of opportunity of men to apply their inherent talents and acquired skill, most of the occupation requires better than average intelligence talent and education. Since printing is one of the most important industry serving all other industries it has a great influence on our social and industrial progress and on national prosperity. Because of this and the high wages it should pay, it is very satisfying field of work.

Now I will deal in types of jobs and qualification necessary.

HAND COMPOSITOR. The compositor has to choose size and style of type faces. He sets type and spaces correctly. He often makes up pages with blocks, rules, borders and ornaments. He corrects his own errors in it after proof reading. He also distributes the type and other elements that goes in the make up of the form.

QUALIFICATIONS. Must know the fundamental operations in type setting and be well informed on the art of Type orgaphic display. He must have a good knowledge of English and spelling since he should be able to catch errors in the copy before setting the type.

MACHINE COMPOSITOR. Lynotype and Monotype must change, set, and adjust arts of the machine for setting lines of various lengths and thicknesses. Change magazines puts metals in pots. Operates Keyboard, has to clean space hands regularly as well as other parts of the machine.

QUALIFICATION. Although machine operation has a certain fascination for the average operator, it is a monotonous opera tion. He generally decides on the type faces to be used and very often has to operate from bad manuscripts. He should have good knowledge of type composition and display. He should be capable of correcting errors in spelling and grammer.

PRESSMAN. Oils press, keeps it in repair and adjusts press. Inks press and mixes ink to proper shades. Makes ready - adjust automatic feeders and delivery mechanism. Checks and controls drying of ink. Responsible for correct printing of the job-ink, aligmment, and register of colours.

QUALIFICATIONS. Has to have good understanding of the mechanical movements of machines, considerable skill in its adjustments for the correct operation. Must have knowledge of ink, driers and various kinds of paper must be conversant with matching of colours, and take pride in having work clean, neat and accurate, Has to lift heavy forms and piles of paper. Good eyesight is essential.

BINDER : There is a great varieties of work - cutting, jogging, folding, padding, gathering, stitching, perforating, and bookbinding marbling, printing on leather with gold.

QUALIFICATIONS. Must be neat, clean and fast.

PHOTO-CAMERA OPERATOR : Photographs in artificial light original art work, type proofs, drawing. Mounts them in copy board adjusts camera and focus to the correct size, exposes plates or films correctly and develops them.

QUALIFICATIONS. Must be familiar with photographic processes as applied to reproduction processes, Colour vision. Previous experience in commercial photography is valuable.

OFFSET PRESSMAN : Makes ready and tend lithographing printing press. Installs plate on the machine, adjust pressure for proper printing adjust ink and water for correct operation, adjusts ink and water rollers, mixes ink operates press and runs job; checks printed sheets at regular intervals, keeps press in good operating condition.

QUALIFICATION: Several years experience required, familiarty with paper inks and offset presswork procedure is essential.

Printing industry craftsmen are mostly illetrate. Their pay was poor. Naturally educated man avoided the profession. We must look upon the graphic art education in different light. We must pay higher wages, we want more educated and mechanical minded men to learn this profession. There is plenty

of scope for good printing, but we must go the right way to train them. We must creat an opening for them in new profession in India. Good printing is essential throughout our lives. We must secure a place amongst printers of the world.

(A) Size of Building-

I have a rough plan of the building. The size of the building is approximately 6875 sq. feet in each floorr There are two floors = 13,750 sq. feet. Office, refectory and other necessary spaces have not been taken into account.

The Plan as laid out only is to give an idea. An Architect would be consulted. The Chief requirement would be abundant day-light. This will contrast very markedly to many printing establishments where daylight never enters. If we are to dignified craftsmen our surroundings should be dignified.

(B) Lay out :

Layout of the department has been made as observed in Leads School of Printing when I was a student.

Printed copies are enclosedherewith for your persual.

ALL INDIA BOARD OF TECHNICAL STUDIES IN APPLIED ART.

Scheme for a Printing School.

(Part II)

EQUIPMENTS AND THEIR APPROXIMATE PRICES.

LINOTYPE AND MACHINERY LIMITED.

Item No.	Description.	Quantity.	Floor space required.	Approx. Price. Rs.
1.	Old Machine (Ex:Govt. of India Press). Old pattern will be used for mechanical demonstration and exercises.	1		4,000- 0-0
2.	Old Machine thoroughly overhauled and workable.	1		10,000- 0-0
3.	Lynotype model 48 SM (new machine) Text and display single distributor machine for more advanced students.	1		45,000- 0-0
4.	Lynotype model 50 double distributor machine the latest model for moxed type of composition.	1		45,000- 0-0
5.	Sundry materials and furniture and galley proof etc.			20,000- 0-0
			Total :	Rs. 1,24,000 -0-0

P.T.O.

ALL INDIA BOARD OF TECHNICAL STUDIES IN APPLIED ART.

Scheme for a Printing School.

ESTIMATE FOR MONOTYPE SECTION.
Quotation of M/S Monotype Eastern Co.,Ltd.,
Ref.HS/D/7 of 11.2.47.

Item No.	Description.	Quantity.	Price.
1.	One Monotype Composition Caster with Motor.	1	
2.	One Keyboard.	1	
3.	One compressor	1	
4.	Four Founts of Matrices with accessories.		
5.	200 Outside sorts Matrices.		
6.	One Case Paper Spool.		£ 1941-0-0
7.	Two Extra Keyboards.	2 @£354/-each.	£ 708-0-0
			£ 2649-0-0
8.	Equipment for setting Devnagri, Hindi, & Marathi as per Monotype Co.'s Quotation No. Qs/39A of 11.2.47.		£ 521-9-4
9.	Monotype Super Caster with accessories as per Monotype Co.'s Quotation No.Qs/40 dated 11.2.47.		£ 1813-18-4
			£ 4984-7-8
	Say..... £ 5000-0-0		
	Add 30% Packing - C.I.F. Indian Port..£ 1500-0-0		
	£ 6500-0-0 @ Rs.14/-		Rs. 91,000-0-0
	Sundry Furnitures & Fittings.		Rs. 20,000-0-0
			Rs.111,000-0-0

ESTIMATE FOR LETTER PRESS MACHINE SECTION

Item No.	Description.	Quantity required.	space Rs.	Approximate Price.
1.	L. & M No.4 Miehle.	1	12 3/2x7-10¼	43,000-0-0
2.	Dawson Payne & Elliot Wharfdale Printing Machine Model SW2	1	8'-6½"x5'-4½"	16250-0-0
	Motor equipment for above.			1500-0-0
3.	Chandler & Price Crown folio 15x10'Craftsman'	1	3'-10"x4'-10"	4,800-0-0
	Motor equipment for above.			500-0-0
4.	Chandler & Price Demy folio 'Craftsman'	1	4'-7½"x5'-0"	6,060-0-0
	Motor equipment for above.			500-0-0
5.	Sundry Furniture.			5,000-0-0
6.	Other Sundries.			5,000-0-0
7.	Dawson Payne & Elliot 'Standard' 42" Self Clamp Guillotine.	1	6'-9"x6'-5"	10,600-0-0
	Motor Equipment for above.			1,500-0-0
	Total		Rs.	94,710-0-0

(Part II)

ESTIMATE OF PHOTO-PROCESS SECTION.

Quotation of Pictorial Machinery Ltd. through M/s John Dickinson & Co., Ltd.

Item No.	Descriptions.	Quantity.	Approx.Price.
1.	Lithotex Process Camera Size 20 x 20	1	£ 116. 5.0
2.	Extra for Brass Binding Camera.		£ 19. 5.0
2.	Lithotex 16' Camera Stand.	1	£ 93.10.0
3.	Copy Holder.	1	£ 22.10.0
4.	Transperancy Holder.	1	£ 21.10.0
5.	Extra Dark Slide.	1	£ 26. 5.0
6.	Copy Board Arc Lamp.	1	£ 66.10.0
7.	Lens.	1	£ 63.10.0
8.	Prism.	1	£ 50. 0.0
9.	Colour Filters (Set of 5)	1	£ 48. 0.0
10.	Circular Screen.	1	£ 112. 0.0
11.	Holder for Screen.	1	£ 32. 0.0
12.	Printing Down Frame.	1	£ 128.15.0
13.	Plate Coating Machine.	1	£ 179.10.0
			£ 979. 0.0

Say £ 1000/- Add 30% for packing, freight, insurance etc. ..... £ 1300/-
@ Rs. 14/- per £ ..... Rs. 18200/-

Approximately .....Rs. 20,000/-

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(PART II) (10)

ESTIMATE OF PHOTO-PROCESS SECTION.

Quotation of Hunter Penrose Ltd. Ref. No. FAS/EMB dt. 1.5.47.

Item No.	Descriptions.	Quantity	Aprox. Price.
1.	15 x 12 Process Camera.	1	£ 80- 3-6
	Extra Dark Slide.	1	£ 18- 5-6
2.	H.P.Girder Stand.	1	£ 78-17-0
3.	Lens.	1	£ 51- 0-0.
4.	Prism.	1	£ 42-11-6
5.	Radial Indicator.	1	£ 7-10-0
6.	Arc Lamps.	1 set	£ 59- 0-0
7.	Screen 80 lines.	1	£ 32-10-0
8.	Screen 65 lines.	1	£ 32-10-0
9.	Filters.	1 set	£ 5- 2-6
10.	Filter Holder.	1	£ 7-10-0
11.	Soaking Trough		£ 10-10-0
12.	Dishes 20 x 16 Porcelain.	2	£ 8-0-0
13.	Dishes 15-12 "	2	£ 2-16-0
14.	Dishes 12x 10 "	2	£ 1- 8-0
15.	Dishes 10 x 8 "	2	£ 0-12-0
16.	Dishes 9 x 7 "	2	£ 0-14-0
17.	Dishes 20 x 16 Enamelled.	2	£ 5-10-0
18.	Dishes 15 x 12 "	2	£ 3-12-0
19.	Dishes 12 x 10	2	£ 1-12-6
20.	Dishes 1[illegible] x 10 "	2	£ 1-5-0
21.	Dishes 9 x 7 "	2	£ [illegible]
22.	Process Printing Frame 16 x 13	1	£ 9- 1-6
23.	Process Printing Frame 11x 9	1	£ 5-19-6
24.	Process Printing frame 11 x 13	1	£ 7- 9-6
	Carried over		£ 475-3-6

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ESTIMATE OF HUNTER PENROSE LTD ..... Continued.

Item No.	Descriptions.	Quantity.	Aprox. Price.
	Brought Forward.		£ 475- 3-6
25.	H.P.Whirler Gunmetal.	1	£ 3- 7-6
26.	Levy Whirler.	1	£ 10-7-6
27.	Etching Machine.	1	£ 311- 5-0
28.	Rocked Bath.	1	£ 165- 0-0
29.	Dragons Blood Brushes.	2	£ 4- 4-0
30.	Plate Tongs.	2	£ 1- 6-0
31.	Shading Medium Holders.	1	£ 36- 3-6
32.	Shading Mediums to choice.	12	£ 28-10-0
			£ 1035-7-0
	Add 30% for packing, freight & Insurance		£ 310-10-0
			£1345-17-0
	@ Rs. 14/- per £. Rs. 18,844/-		
	Approximately		Rs. 20,000-0-0
	Estimate of M/S Pictorial Machinery Ltd.		20,000-0-0
	Cost of Sundries, Furnitures & Fittings.		20,000-0-0
	Total		Rs. 60,000-0-0

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(PART II)

LITHOGRAPHIC MACHINERY SECTION.

Quotation of Messrs. John Dickinson & Co., Ltd.

Item No.	Description.	Qunatity.	Floor spare required.	Approximate Price. Rs.
1.	George Mann Demy Fast three machine.	1	12'-8"x6'-3"	26,475-0-0
	HTB Feeder for above.	1		9,155-0-0
	Motor Equipment for above.			2,725-0-0
2.	Broadway Transfer Press Double Demy.	1	7'-11"x5'-6"	4,200-0-0
	Motor Equipment for above.			1,500-0-0
3.	George Mann Plate Graining Mechine. Quad crown size.	1	5'-4"x3'-9"	2,715-0-0
	Motor Equipment for above.			750-0-0

Total ..... Rs. 47,520-0-0

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ESTIMATE OF BOOK BINDING SECTION.

Item No.	Description.	Quantity.	Space required.	Price.
1.	Model S Double Section Folding Machine size 20 x 30	1	5' x 7'	£ 386/-
	Motor for above.			£ 50/=*
				£ 436/-
2.	John Saw Single Sider Disc Ruling Machine. Model A5 for hand feeding -332x32			Rs. 5060-0-0
	Motor for above.			Rs. 500-0-0
3.	Book Sewing Machine.			Rs. 15000-0-0
4.	Perforating Machine.			Rs. 4500-0-0
5.	Stitching Machine -Vickers.			Rs. 1500-0-0
6.	Gold Blocking Machine.			Rs. 5000-0-0
7.	Screw Press.			Rs. 2500-0-0
8.	Pallets.			
9.	Brass Types.			
10.	Handles.			
11.	Rolls.			
12.	Glue Pots.			
13.	Other Sundries.			Rs. 10000-0-0
14.	Furniture & Tables etc.			Rs. 5000-0-0

Total- Rs. 49060-0-0

* £ 436-0-0

Add 20 % for packing & Freight etc.
£ 88-0-0
£ 524-0-0

@ Rs. 14/- Rs. 7336-0-0

Rs. 56,396-0-0

Approx. Rs. 60,000/-

(D) Teaching Staffs with qualification :-

Under this we would need a full time Educational Director with knowledge of Photographic and Printing Process. Skilled Craftsmen in their particular subjects are to be instructors. It will be found that craftsmen make the best teachers.

Composing Section,	2(two) Teachers.
Lynotype Section,	1(One) "
Monotype Section,	1(one) "
Letter-Press Machine Section.	2(two) "
Photo-Engraving Section.	1(one) "
Photo-Lithography Section.	1(One) "
Litho Machine Section,	1(One) "
Book Binding Section,	1(One) "

Costing, Estimating and English for printing can conveniently be managed by one teacher.

The greatest problem now is the selection of teaching staff. These persons may be drawn from the trade and set out abroad for a teachers training course or drawn of the students who has been trained in the advanced studies overseas.

The scheme of the Government of India Department of Education In some of the Departments namely Photo-Litho and Letter Printing section experts be selected from overseas.

(Part III)

Leeds College of Technology.

DEPARTMENT OF PRINTING AND PHOTOGRAPHY.

Staff of Department

1. Head of Department.

Teaching Staff

2. Six Instructors.

Full time Day course

The following courses have been arranged for training the sons of Master Printers and others who are desirous of attaining ultimately administrative or executive positions in all branches of printing and allied trades.

1. Degree course in conjunction with University of Leeds extending over 3 or 4 years for those wishing to combine Universi[illegible]chnical instruction in this department.
2. Diploma course - extending over one year for those who have obtained the Bachelor of Commerce degree.
3. Technologi[illegible] College diploma either Letter-press or Photographic Process.

This College diploma is awarded to these students who have had minimum co[illegible]ears full time instruction in either subject[illegible]isfactorily pass prescribed examination on conpletion of their cours[illegible].

4. Special courses - for those qualified in any selected branch of the trade.
5. Special investigation and Research courses on trade problems.

Com[illegible]ooms equipped to accomodate 26 compositors with adequate supply of types materials and proof presses.

Monotype room hasfive 'D' Keyboards and one 'DD' Keyboard.

Casting room is equipped with composition caster and super caster. This equipment provides with materials for the composing room over and above casting solids of the

keyboard operation.

Lynotype room has installation of five machines, among them being model 4 and model 48 SM all electrically controlled.

Letter-press machine room has a very comprehensive plant including a range of platens, two Wharfdales, a Centurette, a No. 4 Miehle and No. 6 Miehle fitted with automatic feeder.

The block making room contains a very modern plant including beveller, router, planer, metal saws etc.

The lithographic section is fitted with representative plant and includes a flatbed machine, two rotary offset presses, hand and power proving presses, copper plate presses, graining machine and a flat plate gravure machine.

The book-binding section contains materials for binding of allkinds and includes perforating folding, wire stitching, paging, guillotine, blocking press, pen and disc ruling machine.

The camera room consists of latest cameras, lamps, lenses and prisms and all other apparatus for the production of negatives and positives for modern reproduction processes.

The Etching department is fitted with 'Mark Smith' etching machines for zinc and copper, hot plates and all necessary auxiliary equipments.

Terms & Hours

The year is divided into 3 terms.

The classes meet each day 9 A.M. to 12-30 A.M. and 2 to 4-30 p.m.

Fees.

Typographical £ 12/12 per term
Photographic Process
£ 15/15 per term.

London School of Printing.

Staff.

1. Principal
1. Deputy Principal.

30. Whole time teachers covering the whole section of printing and general education.

38. Part time teachers.

Whole time day courses. Employers' sons and others who will later on be taking up posts of responsibility, are given a thorough practical grounding in the operation carried on in all departments. Practical work is supplemented by detailed lectures, students thereby acquire understanding of the possibilities and limitations of every process. Series of educational visits are also arranged for visiting works of well known printers, bookbinders, process engravers, machinery manufactures, ink makers, paper mills newspaper offices.

Students must be sixteen years of age. Normal duration of this course is three years. A shorter period of not less than two years may be arranged for in exceptional cases.

Reports on work, progress and attendance are issued in each term, examinations are held at the end of each session and a course diploma is granted to students attaining satisfactory standard in all subjects.

Various subjects are grouped in their respective sections as follows:-

Section A. Hand composition, Tynotype Intertype and monotype operation, typographic Designing; proof correction.

Section B. Letter press machine work, (Platen and Cylinder) Printing machines assistants work; Newspaper Rotary work; Press proving; Photogravure printing.

Section C. Lithographic drawing and retouching; Lithographic printing; Photo Lithography; Graphic reproduction.

Section D. Hand and machine book-binding, machine ruling and warehouse work.

Section E. Electro-typing and Stereotyping.

Section F. Science for printers; Paper technology; Printing ink technology; Ink and roller-maker's assistant's course; Metallurgy; Electro Metallurgy; Printing mechanism.

Section G. Orders clerks work; Estimating; Industrial administration; Stationer's assistant's work; Book and Magazine production.

London Country Council

School of Photo Engraving & Lithography.

The work of this school falls into three closely related groups, namely:-

1. Technical Photography
2. Commercial Art
3. Photo Engraving

In Photographic class complete instruction is given in the theory and practice of photography.

In the Art department students are taught to appreciate the technical requirements of the engraving and printing processes. They learn to draw and design having regard to the Print as a finished product. They see the reproduction process in operation and the manner in which their work is reproduced.

Complete theoretical and practical instruction is given in all branches of Photo Engraving. The equipment is complete for line and halftone block making in monochrome and colour.

Lithographic drawing is practised in close relationship with Photo Lithography and the work of the Art Department.

Art students are encouraged to practice Lithography.

Students are not bound to follow any set course but may subject to the guidance of the Principal and Staff,

specialize in particular direction most suited to their requirements.

Special arrangements are made for students proposing to sit for City Guilds London Institute examination for Photo Engraving.

North Western Polytechnic (Printing Department)

This schools has a printing department where letterpress section is only taught, namely

1. Hand composing
2. Letterpress Machine work
3. Linotype and Intertype
4. Monotype
5. Book binding and Warehouse
6. Costing and Estimating .

Day Class (Part time)

These classes are intended to be supplementary to the workshop and to afford facilities for apprentices to receive all round training, which are essential if they are to become efficient craftsmen, which is not always possible to secure in a busy works.

Syllabus of the City and Guilds of London Institute is followed.

Evening Class:-

The evening classes provide technical training of the employees who cannot be released in the day time. Students must be 18 years of age for admission in the mechanical composition classes.

Equipments.

The composing rooms is furnished with a large and varied assortment of modern book and jobbing founts, wood-letter, brass rule, borders etc. together with necessary type cases, all steel composing cabinets and make up randoms, imposing surfaces, Vandercook cylinder and Albion proof presses and other items of modern composing room.

Letterpress Machine

The equipment includes a Double Demy Miehle, a Double Demy Wharfedale, a Demy Miehle with built in automatice feeder,

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modern makeready desk mechanical overlay and underlay apparatus steel unit mounts, parker mounting board [illegible] automatic, Victoria, Phoenix and Arab platen.

Lynotype and Intertype a model 48 Lynotype with side magazines fitted with automatic quadding and centering device; a model 4 Lynotype; and a standard Intertype with side magazines autospacers etc.

Monotype

The Monotype equipment consists of two keyboards with a composition caster and display type caster.

Book-binding and Warehouse - consists of folding book sewing, power wire stitching, blocking press, guillotines etc.

LONDON COUNTRY COUNCIL

CAMBERWELL SCHOOL OF ARTS & CRAFTS.

This school has varied Arts and Crafts course of which -

Typography, Book-binding and Letter-press machine minding are among the subjects taught. The aim of the typography department is to inculcate and maintain the highest standard of design and craftsmanship in the practice of printing.

Classes are held everyday and evening and instruction is offered covering the following branches of latter-press printing.

Compositor's work Practical and theoretical Typographical Layout, Linotype, Practical and theoretical, Monotype Keyboard & Caster, Machine minding - practical and theoretical, Estimating, Costing, General education, English for printers and book production.

Students are prepared for the examination of the City & Guilds of London institute and the Stationer's Company and Printing Industry technical board.

Part time Day Classes for Apprentices.

Employers are invited to allow their apprentices to attend part time Day classes which are intended to supplement the workshop and to give the training which is not always possible in the printing offices.

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Day students are advised to continue their studies in the evening.

Leicester College of Arts & Crafts.

School of printing.

Course of instruction are arranged in close conjunction with the Leicester Master Printer's Association.

Efficient technical instruction in all subjects aims at the development of high standard of craftsmanship. Workshop practice is supplemented by a study of fine workmanship. The school of printing works in closest association with the other departments of the School of Industrial Design of which it forms a part. Visits to printing offices and other works are arranged so that students can see the latest types of equipment and be aware of contemporary developments. Hand composing theory is spread over a 4 years course leading to the college diploma and to the City & Guilds Final Examination in Typography.

Mechanical composition - namely Linotype and Monotype course of instruction is spread over a period of 3 years. Letter-press Machine instruction covers a period of 4 years.

Lithographic printing. - This course is covered in 3 years,

Courses for Master Printer's sons.

Special day courses are arranged for sons of Master Printers and others who wish to qualify for administrative post. Each course is arranged to suit the individual.

Courses for Prospective Teachers of Printing.

The College offers special facilities for those who propose to qualify as specialist teachers of printing subjects.

(Part IV)

HAND COMPOSING SECTION.

SYLLABUS.

Planned three year Course.

1st Year :- The lay of the case; fundamental principles of proofing, distribution, the point system and its application, Composing room materials and equipments, names of paras of type Grouping of types; three main printing processes, proof readers correction marks, spelling, punctuation and word division. Composing room calculation; table and tabular work, sizes of paper and sub-divisions. Principles of imposition, Parts of Books, Signatures, dressing, locking up small forms, description of Typefounding constitution of a fount of type.

2nd Year:- Bookwork, dimensions of printed page and margins, methods of binding and their effect on imposition, casting-off copy - on method, brief description of stereotyping and electrotyping, casting-off copy solid and loaded, determining size of type to fill a given area, Brief description of Intertype, Lynotype, Monotype and Ludlow machines and their utility. Brief outline of the making of line, half - tone and colour blocks.

3rd year:- Casting-off copy for hand and machine set type, including wide and narrow type faces description of modern room composing equipment, factors in planning and arrangement, capacity of mechanical composing machines. Papers, Federation of Master Printer's costing system, general principles of estimating for jobbing and book work. Co-operation between department.

Students must be matriculate for the above course.

Syllabus:- LINOTYPE COMPOSING SECTION.

Two Year Course.

(Applicants with proficiency in hand composing can only be admitted).

1st Year:- Explanation of different models, correct fingering, date and cleaning of matrices and space bends, differentkeyboard layouts, keyboard mechanism, magazine, magazine

escapments; space band bex, spaceband release, assembling mechanism; delivery slide; delivery channel; maincams; different types moulds changing measures magazines etc; adjustments.

2nd Year:- Instruction on the automatic process of Linotype; the driving clutch, First elevator carriage and slide justification, automatic safety stop; vice fremes, moulds; metal pot, line casting section: line transfer; ejection; trimming knives, matrix distribution use of micremeter; working adjustments and modern machine features.

MONOTYPE SECTION.

Monotype Keyboard

(Applicants with proficiency in hand composing can only be admitted. A full time course of one year for compositors, who want to take up jobs as keyboard operators).

Syllabus.

Basic principles of the Monotype systems, demonstration of the keyboard, aided by plans of the various movements caused by the depression of the key, the unit and the set, their significance and application. Keyboard layouts, reading perforationsl justification keys and their effect on the wedges. Uses of justification drums; increasing and decreasing the size of drum; tabular work - from single two column composition to tables with box headings in smaller type; allowance for vertical rules in tabular work, letter spacing; factor tables; The advantages of Monotype verastility -

MONOTYPE SECTION

Monotype Caster.

Syllabus.

Basic principles of the Monotype System; working principles; plant and equipment necessary foran installation,

cleaning and care of plant and equipment, essentials of hand composing, perforated ribbon and punch index plate. Monotype system of type measurement; set; and application of set; care and adjustment of moulds; matrix case layouts; typewriter composition, large type compositional, how the justification of line is obtained; mechanical description of the caster; adjustment of the caster. Methods of locating faults; management of super casters; the keyboard in relation to the caster; work of the keyboard operator, Elementary metallurgy -.Display type casting, head and furniture, casting of the super caster.

LETTERPRESS MACHINE SECTION

Syllabus.-

Planned for 3 years course.

1st Year:- Hand press work; covering a hand press tympan description of wood and metal furniture; locking up of formes and materials used, type cleaning washes; cleaning of type formes blocks. Oiling of machines and care of oiling, system of oiling, locking up of formes for platen machine, use of suitable materials for security; methods of dressing platen, platen and press make ready, standard sizes of paper, boards and their subdivisions, sizes of cut cards, chases, care of rollers, readers correction marks; outline of the point system, various types of lays and their suitability, fixing friskets; different kinds of mechanical quoins components and manufacture of letter press inks, make ready of line blocks; roller making and materials used. Embossing of platen machine.

2nd Year:- Mechanism of slop cylinder machine, their care, and distributors on cylinder machine, selection and suitability of materials for cylinder dressing. Schemes for imposition of 16, 24 and 32 pages, sheet and half sheet work, preparation of half tone blocks, underlaying and interlaying; hand cut and mechanical overlays.

3rd Year:- Construction of two revolution machine, vertical cylinder machines. Automatic platens, care and adjustment of these machines and the types of work suitable for these machines. Imposition schemes in conjunction with machine folding; paper difficulties encountered on the run, namely creasing, plucking, set off, defectove register - probable cause and how to avoid; preparing formes containing type and blocks mechanical overlays; Printing two colour and three colour half tone blocks, running various classes of work on different types of machines, Use of dockets.

PHOTO PROCESS SECTION

(Students must be matriculate)

(CAMERA OPERATION)

Syllabus:- Two year course.

1st Year:- The study of camera procedure, lighting, focussing-proportional size factors, halftone screens, chemical formulae, wet plate process, dry plate process. Line negatives on wet plates, dry plates and film. Halftone negatives, modern dark room cameras, study of lens and prism, stops, camera extension, standardization in photo negative making; Two colour three colour and four colour halftone negative making. Use of filters.

Metal Printing and Etching Operation

2nd Year:- Modern method of printing on metals by albumen, glue, cold enamel solution on zinc and copper. Combination line and half tone print; colour line and the use of mechanical shading medium; Reversal methods; negative stripping: Line Etching. Powdering rolling up halftone etching, Fine etching, colour etching. The use of colour charts. Routing; mounting and engraving, - proving.

Syllabus:- PHOTO LITHOGRAPHY.

Two year Course

1st Year :- The principles of Lithography; study of Lithegraphic printing surfaces, Stones, Zinc and Aluminium plates, Line work,

Halftone work, colour separation, stripping, sensitive materials, Determining exposures, Determining slops in relation to extension, Effect of developers, Effect of temperature, Fixing, Reteuching negatives, Dot etching, Making positives by contact and camera.

2nd Year:- Albumen and Deep Etch plate making, Graining of zinc plates, materials used in graining; the need of graining. Litho artist work on plate, taking set off, mechanical tintlaying hand stippling, transfering, patching up photo composing machine. Preparation of plates prior to printing.

LITHOGRAPHIC MACHINE SECTION.

Two Year Course.

Syllabus.

Early craft history; Lithographic stones, preparation of stone and plate to receive work; Basic of Lithographic printing; properties and use of common materials; tools and equipment. Press construction; Transferring; simple patching up grained stones; treatment of chalk work; keys and set offs. Offset blankets, rollers and their adjustments; setting of rollers, setting ink fountain, inking up of press; pulling an impression, making adjustment and pulling second sheet; pressure adjustment in relation to cylinder bearers, Gripper adjustments; lubrication of press. Packing of cylinders, clamping plate on the machine cleaning damping rollers; washing up of press. Cleaning forme rollers. Removing plate.

2nd Year:- Press check up, Paper conditioning, offset blankets, make ready, Press operation, preparing ink, driers, varnishes, Tints, matching colours, registeration of colours. Paper distortion, packing cylinders, patching up for even impression. Press troubles and their remedies. Feeder their setting, timing. Electrical system, chemicals and their use and abuse. Paper characteristics, drying problems of ink. Printing halftone work. Printing colour work. Study of camera negative making and its printing on metal for press operation.

SCHOOL LIBRARY.

1.	The Art and Practice of Typography by Edmund G.Gress.	The Oswald Publishing Coy. New York.
2.	Practical Printing (2 Vols) by T.Southward.	Raithby Lawrence
3.	Modern Printing (2 vols) by T.Southward.	.. ..
4.	Modern Methods of Book Composition by T.L.Devinne.	The Oswald Publishing Co., New York.
5.	The Linotype.	The Linotype Machinery Ltd.
6.	The Monotype 'D' Keyboard.	The Lanston Monotype Corpn.
7.	The Operating of Monotype Keyboard.	.. ..
8.	The Monotype Caster Instruction for running and adjustment.	.. ..
9.	What a compositor should know (3 volumes)	Borough Publishing Co., 132, Church Road, N.1 London.
10.	Imposition by F.J.Trezise.	The Inland Printer Chicago.
11.	Rules for compositors & readers at the Oxford University Press.	Horace t Milford.
12.	Punctuation and the style of the House by Harry Whelton.	Raithby Lawrence.
13.	Stonework How & Why by Vernon Possuett.	.. ..
14.	The Principles & Practice of Newspaper make up by T.E.Naylor.	.. ..
15.	Modern Press Work by Fred W.Gage.	The Inland Printer.
16.	Printing Ink by Frank Wiborg.	Harper Brothers New York.
17.	The Chemistry & Technology of Printing Inks by Underwood & Sullivan.	Constable.
18.	Practical Bookbinding by Paul Adams.	Scott & Greenwood.
19.	Bookbinding & its Auxiliary Branches.	
20.	Bookbinding Craft & Industry by Harrison.	Pitmans.
21.	The Textbook of Paper Making by C.F.Cross & E.J.Bevan.	Spon.
22.	The Manufacture of Paper by R.W.Sindall.	Constable.
23.	Offset Lithography Warren.	The National Lithographers.
24.	The Art of Lithography by H.J.Rhodes.	Scott & Greenwood.
25.	Practical Noteson Stereotyping and Electrotyping.	Raithby Lawrence.
26.	Zinc Photo-Engraving by William Gumble.	Percy Lund & Humpheries.
27.	Estimating.	British Federation of Master Printer.
28.	Costing.	.. ..

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Number of students that can be trained.

(a) Composing Section.	24 Students.
(b) Linotype Section.	8 "
(c) Monotype Section.	8 "
(d) Letter-press Machine Section.	10 to 12 students.
(e) Lithographic Machine Section	10 to 12 "
(f) Photo-Litho Section.	8 students.
(g) Photo-Engraving Section.	8 "
(h) Binding Section.	12 "
	88 to 92 students.

(g) STANDARD INTENDED TO REACH.

The students should pass the examination of the City and Guilds London Institute or a committee be formed of Printers to set a standard of examination under different sections.

(h) LIKELY EMPLOYMENT IN THE TRADE.

From the questionnaire sent out I gather ths every assurance is given of their being employed from printers in Calcutta and Bombay.

BUDGET

The Summary of Cost of Equipments :-

(1) Hand Composing Section.	Rs. 80,000-0-0
(2) Linotype Machinery Section.	124,000-0-0
(3) Monotype Section.	111,000-0-0
(4) Letter-Press's Machine Sec.	94,710-0-0
(5) Photo Process Section.	60,000-0-0
(6) Lithographic Machine Section.	47,520-0-0
(7) Book Binding Section.	60,000-0-0
	Rs. 577,230-0-0
Building	Rs. 300,000-0-0
	Rs. 877,230-0-0

Ten Lacs should be ample.

Income

(a) Fees to be charged of students.

(b) The company should pay for this if he is employed.

(c) A group of printers in the city where the school is located should underwrite a portion of maintainance cost annually.

EXPENDITURE.

In the way of salary for staff etc. it is best left to more competent person to decide.

Annexure 11
Item No.7(e) of Agenda. Fifth Meeting.

Co-ordinating Committee
of the
All India Council for Technical Education.

M E M O R A N D U M.

Safety Education in Engineering Colleges and Technical Institutions.

The rising trend in industrial accidents has been a matter of considerable concern to Factory Inspectorates in all the progressive and industrially advanced countries, and intensive campaigns have been instituted by Government departments and voluntary organisations with a view to reduce such accidents - not only to prevent human misery but to conserve manpower. Special surveys and analysis of accident statistics have shown that lack of appreciation of hazards and of knowledge of even the most rudimentary facts about Safety is one of the major secondary causes of industrial accidents, particularly those involving young persons. The need for integrating safety training in technical education is now being increasingly felt. In the U.K. and the U.S.A. the technical institutions recognise its importance and collaborate with the Government Factory Departments and voluntary organisations in imparting to the students the necessary background. An interesting aspect of this safety instruction has been the reorganisation of the college workshops and laboratories in order that they may serve as examples of accepted safety practice.

With the rapid growth of safety-consciousness it has now become more important than ever that technical personnel should become aware of its impact on their specialisation. Because of the pressure of their curriculum and the nature of their scholastic training, it is only when they actually enter industry that they begin to realise the necessity of safety but are handicapped by the lack of necessary training. This need for integrating safety training in technical education is a matter of some importance, more so in this 2/.

education is a matter of some importance, more so in this country where there are no voluntary safety organisations of any note and Safety is treated as a matter of enforcement by the Factory Inspectors. In most cases there is hardly any response from the Managements, and in many cases it becomes necessary to impress upon the Engineering and Supervisory Staff the need for even the most obvious safety measures.

At the 30th Session of the International Labour Conference held in Geneva, one of the Recommendations adopted on the question of labour inspection in industrial undertakings, emphasises the need for instruction in Industrial Hygiene and Safety in technical Institutions as an appropriate step to be taken by the Government to ensure cooperation of employers and workers in regard to health and safety.

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CO-ORDINATING COMMITTEE
OF THE
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M E M O R A N D U M.

The Visiting Committee appointed by the All-India Council for Technical Education to report on the College of Technology, Banaras Hindu University, had inter-alia remarked as follows:-

'As regards the Industrial Chemistry and Chemical Engineering sections, the departments are hopelessly ill provided. Even the smallest sums of money are not available for pilot plant work and it looks that machinery has not been used during the last few years for want of money and equipment and is merely exhibitional in character.'

The Scrutinising Committee of the All India Council for Technical Education which met at Delhi on the 14th November 1947 recommended that the Pharmaceutics and the Industrial Chemistry Departments of the Institution should be strengthened and the annual intake to these courses should, for the time being, be limited to 22 and 30 only.

The above recommendation was endorsed by the Co-ordinating Committee at its fourth meeting held on the 15th November 1947 and accepted by the Government. The Banaras Hindu University were accordingly advised of the amount of grant which the Government were prepared to sanction for 1947-48 if the University would agree to comply with certain standard conditions and agree to restrict the number of admission as recommended by the Co-ordinating Committee. The University, however, expressed their inability to comply with the latter condition and consequently no grant was sanctioned for the College of Technology.

In his letter dated the 12th April, 1948, copy reproduced below, the Pro-Vice-Chancellor of the University

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has now requested that the matter be reconsidered by the All-India Council for Technical Education and a grant recommended for the Institution on the basis of the existing number of admissions.

Copy of a letter No.P/410, dated the 12th April 1948, from the Pandit Govind Malaviya, Pro-Vice-Chancellor, Banaras Hindu University, to the Secretary, All India Council for Technical Education, New Delhi.

With regard to the grant for our College of Technology the number of admissions proposed by the Government of India for the section of pharmaceutics was accepted by us as being the number which we have been admitting. That portion of the grant, therefore need not have been held up and may kindly be paid without delay.

Regarding the industrial chemistry section, I have to request Government and the All India Council for Technical Education to be pleased to reconsider the matter. For the last 10 years we have been admitting up to 80 students to our B.Sc. and 30 to our M.Sc. total up to 110. If the grant recommended by the All India Council for Technical Education was on the basis of 30 students only, I have to request the Government and the Council to be pleased to sanction a grant which may be considered suitable to enable us to continue to admit the numbers which we have been taking in, instead of asking us to reduce the number which we have been admitting for the last 10 years.

I have to submit that the need of the country and the object for which the Council has been established is to take steps to increase the output of trained technologists in the country and not to reduce it. Standards have to be raised. We shall be grateful if Government will give us the help required to do so. But in view of the fact that these graduates whom we have been producing all these years are in great demand and are finding ready employment, it will

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be against the interests of the country to ask us to reduce their numbers so tremendously (from 110 to 30) so long as we are not able to produce all these graduates and more of a higher standard.

It will be helpful to give an idea of the introduction and the development of this subject in this University. This special combination of (a) Pure Chemistry, (b) Industrial Chemistry and (c) General and Chemical Engineering was started as early as 1921 when no other University in India had any such combination to offer to the students. I should like to invite the special attention of the Government to the following few facts:-

Being a residential University, we have several advantages over some others. We have specialised teaching in subjects like Pure Chemistry, Mechanical Engineering, Electrical Engineering and Mechanical Drawing etc. in separate departments manned by qualified teachers. Therefore, out of the three subjects mentioned above, the Department of Industrial Chemistry has concerned itself more with the teaching of the subject of Industrial Chemistry. In this, again, from the very beginning, we have provided for a special bias for the practical side by including in our equipment for Oils and Soaps, Glass, Ceramics and general industrial operations, semi-commercial plant and machinery to enable t our students to gain familiarity with Chemical Engineering operations. For this the laboratory is equipped with a general set of apparatus for grinding, crushing, distillation and evaporation etc. All these practical Units have made the teaching of Applied Chemistry of living interest. During the last 25 years, between 800-1000 B.Scs. M.Scs. and special Diploma students have passed through these courses and we are happy to say that the courses have been so useful and so fruitful that nearly 700 of our students are actually working in the industrial line either as helpers or as proprietors.

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Being an All India University from the very beginning, students have been coming from all the different Universities of India and also the different states from Kashmir to Cochin and from N.W.F.P. to Burma. During the last ten years the courses have been extremely popular, and we have been admitting upto 80 students every year coming from all parts of India. It might be noted that the annual number of applicants is never less than a thousand. Thus, only 6-8% of the applicants are receiving admission. Further, we wish to invite your attention to the fact that these applicants are selected on the basis of their having secured a minimum of 55% of the marks in their Inter-Science examination. The money spent in the Department of Industrial Chemistry for these students, is only for applied chemistry - both Theoretical and Practical, because for Pure Chemistry there is a separate Department and for Electrical and Mechanical Engineering and Mechanical Drawing, our Engineering College takes all the responsibility. This will show that the teaching in all the subjects has been maintained at a high standard of efficiency and the cost of maintainance has been distributed over three different headings in the budget.

I have, therefore, to request the Government and the Council to take into account the fact that we have been training up all these boys from year to year for over a decade; that there is a keen demand for them in the country; that the rush of applicants for admission is extremely great; that the country needs a larger number of them than it produces and that therefore we should be allowed to continue to admit the numbers that we have been taking in and the grant that was proposed should be paid forthwith and such additional grant may be further sanctioned as the Government and the Council may think fit.

I shall be grateful if you will kindly have this matter considered by the Council at an early date and convey

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to us Government's decision in this matter to enable us to take the necessary steps in time for our next year's classes and admissions which begin in early July 1948.

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Hon'ble Minister of Education

Madras

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PROGRAMME OF ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

Place of meeting - Council Hall-

20th April	14-30 to 17-30.	Co-ordinating Committee Meeting.
21st April	8-30 to 10-30	Visits to:- i) Sir J.J.School of Art. ii) Sabu Sidique Technical Institute.
	10-30 to 13-00	Co-ordinating Committee Meeting.
	14-30 to 16.00	Co-ordinating Committee Meeting.
	16-00 to 19-30	Visit to University Department of Chemical Technology. Visit to V.J.Technical Institute. Tea at V.J.Technical Institute. Visit to Industrial Chemists Laboratory.
22nd April	10-30 to 13-00	Council Meeting.
	14-30 to 17-30	Council Meeting.
	17-30	Honourable Premier's Tea Party - at Council House.
23rd April	8-00 to 10-00	Visit to proposed site for the Western Higher Technical Institute.
	10-30 to 13-00	Council Meeting.
	14-30 to 17-00	Council Meeting.
	17-00 to 20-00	Government Leather Working School and Tanning Institute, Bandra. Visit and Tea.

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Poona Trip of the delegates to the 3rd meeting of the All India Council for Technical Education.

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24th April Leave Victoria Terminus at 8.

Visit to:-

i) College of Engineering, Poona.

ii) Cusrow Wadia Technical Institute.

Lunch at Poona.

Leave Poona at 15-20

The Government Tanning Institute and the Leather Working School, Bandra, Bombay 20.

The Government Tanning Institute was established in March 1939. The Institute conducts two courses -

(1) The Artisan Course of one year's duration and

(2) The Advance Course of two year's duration.

For admission to the Advance course the candidate is required to possess a Matriculation standard and for admission to the Artisan course the candidate must be able to read and write the mother tongue.

The present strength of the Tanning Institute is 34.

The Government Tanning Institute has done a certain amount of research work and has done pioneer work in regard to the manufacture of glue in the Province. Most of the staff working in the glue factories of the Province are trainees from the Tanning Institute. A good deal of practical work is provided during the courses of instruction so that students work on fairly large packs of hides and skins in the Tannery attached to the Institute. The total number of students trained so far are 30 for the Advance Course and 128 for the Artisan Course, many of who are engaged in the industry within and outside the Province.

The Leather Working School which is situated by the side of the Institute conducts the Artisan and Advance courses since 1944. The present strength of the School is 34.

A hostel is attached to the Institute and the School.

The Industrial Chemist's Laboratory
Department of Industries, Bombay.

The Industrial Chemist's Laboratory of the Department of Industries was started in the year 1939 at the Old Custom House Yard, Fort, Bombay, and investigations of immediate interest to the small-scale and cottage industries of the Province in respect of vegetable oils (refining and hardening), washing soap, drying oils for varnishes and paints, several chemicals which are in production in various factories of the Province, rubber products (balloons, Latex goods), essential oils, forest products, etc. were undertaken.

During the war time the Laboratory was called upon to undertake the production of certain war chemicals for supply to the Ordinance Factories which work was handled on a semi-commercial scale. As the accommodation at the Old Custom House Yard was found inadequate for production of chemicals on semi-commercial scale, the Laboratory moved into the present building in 1944 which was constructed specially for the purpose.

Some of the important activities of the Laboratory are as follows :-

The production of potassium dichromate gained importance during the war time. Experiments were conducted on a semi-commercial scale for making the chemical and on the strength of the results obtained, a factory was established at Bombay.

The Laboratory undertook experiments for

working

working out various processes e.g. sodium sulphate, sodium sulphide, potassium perchlorate (Electrolytic) and supplied the necessary particulars to the interested parties.

The Laboratory carried out experimental work and also gave demonstrations of the processes in the fields for the recovery of essential oils (palma rosa oil, lemon grass oil, lime oil, cinnamon leaf oil, oil of peppermint, etc.) and for the extraction of Kath from Khair trees in co-operation with the Forest Department. The Lime Oil Factory at Utran, Khandesh, was started as a result of the experiments carried out at the Laboratory. The investigations for studying the yield and quality of palma rosa oil, under different conditions have been just completed; the motia grass for the purpose was grown under the supervision of the Silviculturist to Government at the Experimental Plantation, Empress Gardens Poona.

The Laboratory has carried out experimental work for the production of starch from arrowroot tubers and subsequently gave a demonstration on a semi-commercial scale at Mahableshwar where the tubers grow in large quantities.

The Laboratory has a Testing Section which undertakes analytical tests of raw materials used by various factories in their processes and also of finished products for which test certificates are given. This Section has helped a large number of factories which have taken advantage of the results for improving the quality of their products.

As a P.W.R. measure, it is now proposed to have an uptodate Test House for helping the

industries of the Province. An Economic Geologist's Section is also to be established in the Laboratory. This Section is expected to carry out field surveys and tests of minerals and would be able to advise Government and interested parties regarding the possibilities of their utilisation.

SIR J.J.SCHOOL OF ART,BOMBAY.

This School of Art was established in 1857, Sir Jamsetji Jijibhai, the first Baronet contributing Rs. 1,00,000 towards its endowment, with classes for Drawing.

In 1865, three ateliers were, established (1) for Decorative Painting (2) for Modelling and (3) for Ornamental Wrought Iron Work.

The Reay Art Workshops (the Craft Section) were opened in 1891 the object being to impart a higher training to young Craftsmen than that can be obtained in the daily practice of the craft in the Bazaar, the instruction given being in Carpet Weaving, Ornamental Copper and Brass Work, Enamelling, House Decoration and Painting, Gold and Silver Work, Wood Carving and Joinery, Stone Carving and Wrought Iron Work.

A class in Architecture was introduced as a draftsman's Class in 1896.

In 1910 a class for training Drawing Teachers was started.

In 1935 Commercial Art Section was added to the Institution.

In 1944 Evening Classes for Drawing, Painting and Design were introduced.

It was felt for a very long time that the Department of Art should have an independent Director and the subject of Art Education be placed under him. To give effect to this view, in 1929, Government of Bombay converted the Sir J.J. School of Art into a Department independent of the Director of Public Instruction changing the designation of the Principal into that of Director. This measure marks the most important stage in the history of Art Education in as much as this Province had the honour of possessing an Art Department. It proved very effective and the allround growth of the School as a whole as well as the standard of effeciency achieved was remarkable.

The School maintains a realistic approach to Art Education by fostering the tradition and at the same time giving a scope to develop the instinct of the Art student in accordance with his inclinations.

The Department is also responsible for the organisation and conduct of the Government of Bombay Higher Art Examinations in Drawing and Painting, Sculpture, Commercial Art, Architecture, and Drawing Teacher's, Drawing Master's, and Art Master's Examinations.

It will thus be seen that the School consists of the following Sections:-

1) Drawing and Painting,
2) Sculpture and Modelling,
3) Normal Class for Drawing Teachers,
4) Evening Art Classes,
5) Lord Reay Art Workshops (Crafts),
6) Architecture,
7) Commercial Art.

Note
on the
DEPARTMENT OF CHEMICAL TECHNOLOGY
University of Bombay.

The Department of Chemical Technology was established in 1934 with two sections - Textile Chemistry and Chemical Engineering. It was housed during the first nine years in the East Wing of the Royal Institute of Science, and it has now been transferred to buildings of its own at Matunga. The Department consists at present of seven sections - Textile Chemistry; Chemical Engineering; Dyestuffs and Intermediates; Pharmaceuticals and Fine Chemicals; Foods and Drugs, Plastics, Paints and Varnishes; and Oils, Fats and Soaps. In addition to 160 students in the two years of the B.Sc. Tech. course, there are over sixty students carrying out research in chemistry and chemical technology, and over fifty students have so far obtained the degrees of M.Sc., M·Sc.Tech. and Ph.D. Admissions to the Department are restricted to graduates in chemistry, the Department being therefore entirely a postgraduate institution. Further, admissions are made strictly according to merit.

The buildings have been designed in the modern style of architecture, best suited to secure the requisite effects of simplicity and dignity, which should be associated with a technological institute. The Department is fully equipped, so far as the present sections and the limited number of students are concerned, for teaching in accordance with the highest standards and for research, both fundamental and applied. In the present stage of development of the chemical industry, it has been necessary to provide for specialisation in special branches of chemical technology as well as in general and chemical engineering. Each section of the Department possesses adequate facilities for pilot plant work in addition to chemical laboratories.

The publications of the Department, over 200 in number, in well known Indian and foreign journals, are circulated to a large number of mills and factories, who are on the list of subscribers.

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VICTORIA JUBILEE TECHNICAL INSTITUTE.

The Victoria Jubilee Technical Institute owes its existence, in a large measure, to the great foresight and endeavour of the leading citizens of Bombay who recognised as far back as 1880 that technical education was of very great importance to the industrial progressof the country. Sir Dinshaw Manockji Petit, by his munificent donation, provided the Institute its first home, the old Elphinstone College Buildings at Byculla. Work was started with two departments viz. the Mechanical Engineering and the Textile Manufactures, the two technical branches of greatest importance to Bombay and its industries in those days. In later years, the departments of Electrical Engineering, Technical and Applied Chemistry, and Sanitary Engineering were added.

With the growth of the Institute, the premises at Byculla were found insufficient and the whole of the Institute was shifted to its new home in Matunga in 1923 and this has made it possible for the Institute to grow rapidly in its new surroundings. Thus in 1931, a new workshop block which houses what may be called a miniature textile mill was constructed. In 1944, work of expansion of the Institute in Mechanical and Electrical Engineering Departments were undertaken and two new extensive blocks of buildings to house workshops, laboratories, drawing offices and class rooms are nearing completion.

The diploma courses of the Institute cover a period of four years and include in the fourth year of the course a period of six months practical training at a recognised engineering, chemical, or a textile workshop or factory. In the classes leading to the diploma, while due attention is paid to the theoritical instruction, emphasis is laid on the practical training and all students spend a good part of their time in the workshops and laboratories.

The minimum age for admission is 16 years and for the last six years a minimum physical standard has also been laid down and all new entrants are examined by a Medical Board for their physical fitness prior to their enrolment. The Medical Board also carries out annual medical inspection of all the day students so as to advise students of any deficiencies in good time. The tuition fee ranges from Rs.200/- to Rs.300/-. The number of diploma students attending the Institute at present is about 750.

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With a view to meeting the dearth of suitably trained men in the Mechanical and Electrical Engineering in the post-war period and to meet the demand of technical personnel for the Bombay Electric Grid Scheme, the Government of Bombay made very large non-recurring grants to the Institute which has made it possible to extend the facilities for diploma students by equipping the workshops and laboratories. As a result of these extended facilities, the training imparted to the diploma students has indeed been made very comprehensive.

In June 1946, a new course leading to the degree of Bachelor of Textiles was established at the Institute and in the subsequent year the Institute was also affiliated to the Bombay University for Engineering degree courses.

The Institute hostels offer residential accommodation to about 300 students. There are playing fields on the premises and special care is taken regarding physical training.

The Management of the Institute is vested in a Board of trustees which has eight members including the Chairman nominated by the Government of Bombay, three members nominated by the Bombay Municipal Corporation, one member nominated by the Bombay Millowners' Association and one member representing the founder-donar.

The Institute completes this year sixty years of service in the field of technical education.

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PNJ/PJR.

NOTE ON MAHOMED HAJI SABOO SIDDIK INSTITUTION.

The Mahomed Haji Saboo Siddik Institution was founded in the year 1936 as a Trade School. The Institution had its own courses in Mechanical, Textile, Welding, Painting and Automobile Trades and granted certificates to the successful candidates. In Radio Servicing and Electrical Wireman's Apprentice, the students were also prepared for Government examinations. The Institution, as a whole, was neither recognised nor aided by Government.

In the year 1944, however, the activities of the Institution were recognised and as a first step it was decided to have only such courses as could be recognised by the Board of Technical and Industrial Training of the Government of Bombay for the purpose of examination and certificates.

In 1945, the management felt the need of a second Technical High School in this highly industrailised city of Bombay and accordingly a scheme was presented to the Government. This Institution is now divided into two sections viz. (i) Technical High School section and (ii) Technical Institute section.

(i) The Technical High School Course is spread over four years leading to the Final S.L.C. Examination which has been recognised as equivalent to the Matriculation Examination by the Bombay University and Government of Bombay for the purpose of admission to Colleges and employment respectively. The subjects taught are as follows:-

(1) English
(2) Mother Tounge.
(3) Mathematics
(4) Physics & Chemistry.
(5) Geography.
(6) Technical Drawing.
(7) Workshop Technology (Theory & Practical)
(8) Mechanical Engineering.
(9) Electrical Engineering.

(ii) The Institute section provides instruction in the following courses:

(1) Automobile Engineering	3 yrs.	(5) Lower Grade Weaving.	3 years
(2) Radio Servicing.	1 year.	(6) Electrical Wireman	½ year
(3) Mechanical Apprentice.	2 years	(7) Commercial Art Painting	1 year
(4) Automobile Apprentice	2 years	(8) Welding.	1 year

Excepting Nos. (7) and (8), all the courses are recognised by the Director of Industries.

The Institution is now recognised and aided by the Government of Bombay.

ALL INDIA COUNCIL
FOR
TECHNICAL EDUCATION.

(103)

THIRD MEETING.

Dates : 22nd & 23rd April, 1948.

Time : 10-30 A.M.

Place : Council Buildings, Bombay.

Joint Director of Industries and
Commerce, Madras.

ALL INDIA COUNCIL
FOR
TECHNICAL EDUCATION.

Third Meeting.

Place: Bombay

Dates: 22nd and 23rd April,1948.

Agenda.

1. To report that the proceedings of the second meeting of the All India Council for Technical Education held at Bangalore on the 29th and 30th May,1947 were confirmed by circulation to members.

2. To report the present membership of the Council.

Annexure 1.

3. To receive and to consider the minutes of

(a) the fourth meeting of the Co-ordinating Committee of the All India Council for Technical Education held in New Delhi on the 15th November,1947 and

(b) the fifth meeting of the Co-ordinating Committee of the All India Council for Technical Education held in Bombay on the 19th April,1948.

Annexures 2 & 3.

4(a). To receive and to consider a note setting out the action taken to constitute the Regional Committees of the Council.

Annexure 4.

(b). To consider suggestions of the Government of Bombay on the composition of the Co-ordinating Committee and the proposed Regional Committees of the Council.

Annexure 5.

5. To report the action taken by the Government of India on the recommendations made by the Council at its second meeting and to consider matters arising therefrom.

Annexure ..

6(a) To receive and to consider a note on the activities of the All India Boards of Technical Studies.

Annexure ..

(b). To elect representatives of the Council on the reconstituted All India Boards of Technical Studies.

Annexure 7(a).

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6(c). To consider letters from

1. Secretary, Federation of Indian Chambers of Commerce and Industry, New Delhi.
2. All India Organisation of Industrial Employers, New Delhi, and
3. Secretary, the Employers Federation of India, Bombay,

regarding representation of employers on the All India Boards of Technical Studies.

Annexure 8.

7. To consider the suggestions of the Government of West Bengal in regard to the organisation of Technical Education.

Annexure 9.

8. To consider a representation from the Technical Employees Association, C.P.W.D., regarding grant, to Diploma Holders in Service, of direct admission to the Degree or All India Diploma Examinations.

Annexure 10.

9. To consider a note from the Government of Madras on the organisation of apprenticeship Training, and the provision of facilities for the training of students in Tele-communications Engineering in the All India Radio.

Annexure 11.

10. To receive and to consider the report of the Re-organisation Committee of the Indian School of Mines, Dhanbad.

Annexure 12.

11. To receive and to consider the reports of the Committee appointed by the Ministry of Commerce, Government of India, on training of personnel for the Merchant Navy in India.

Annexure 13.

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12. To consider the request of the All India Manufacturers Organisation for representation on the Council.

Annexure 14.

13. To elect from their respective constituencies members on the Co-ordinating Committee of the Council in place of Pandit Govind Malaviya (Central Legislature) and Professor B.N. Banerji (Commerce, Industry and Labour).

14(a). To report that Sir J.C. Ghosh lately Director, Indian Institute of Science, Bangalore and now Director General, Industry and Supply, Government of India and Mr. H.N. Shrivastava, Additional Chief Engineer, Posts and Telegraphs, New Delhi have been nominated by the Chairman to represent the Council on the General Council and the Engineering Division Council respectively of

Contd....

the Indian Standards Institution.

(b) To report that Major D.L. Deshpande Principal Engineering College, Trivandrum has been nominated by the Chairman to represent the Council on the Advisory Committee for the Power Engineering Department of the Indian Institute of Science, Bangalore.

15. Any other business with the permission of the Chairman.

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Annexure 1
Item No. 2 of Agenda

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ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION.

LIST OF MEMBERS.

Chairman	1. Mr. N. R. Sarker, 'Ranjani', 237, Lower Circular Road, Calcutta.
Educational Adviser to the Government of India.	2. Dr. Tara Chand, M.A., D. Phil., Educational Adviser to the Government of India, Ministry of Education, New Delhi.
MINISTRIES OF THE GOVERNMENT OF INDIA	**REPRESENTATIVES**
Ministry of Agriculture . . .	3. Professor J. N. Mukerjee, Director, Indian Agricultural Research Institute, New Delhi.
Ministry of Commerce . . .	4. Mr. K. K. Chettur, M.A., Joint Secretary, Ministry of Commerce, New Delhi.
Council of Scientific and Industrial Research.	5. Dr. Sir S. S., Bhatnagar, O.B.E., D.Sc., F.R.S., Director, Council of Scientific and Industrial Research, New Delhi.
Ministry of Finance . . .	6.
Ministry of Health . . .	7. Mr. P. M. Menon, I.C.S., Joint Secretary, Ministry of ~~Finance~~ Health, New Delhi.
Ministry of Industry and Supply .	8. Mr. M. P. Pai, I.C.S., Joint Secretary, Ministry of Industry and Supply, New Delhi. 9. Dr. J. N. Ray, Deputy Director General (Development), D. G. I. & S., New Delhi.
Ministry of Labour . . .	10. Mr. S. Lall, C.I.E., I.C.S., Secretary, Ministry of Labour, New Delhi.
Ministry of Communications . .	11. Rao Bahadur N. C. Ghosh, Director General of Civil Aviation in India, New Delhi.
Ministry of Railways . . .	12. Mr. F. C. Badhwar, Member, Railway Board.
Ministry of Defence . . .	13. Deputy Director, Military Training (Technical), Ministry of Defence, New Delhi.
Ministry of Works, Mines and Power	14. Mr. D. L. Mazumdar, I.C.S., Joint Secretary, Ministry of Works, Mines and Power, New Delhi.
Ministry of Food	15. Mr. J. M. Lobo Prabhu, I.C.S., Joint Secretary, Ministry of Food, New Delhi.
Ministry of Transport . . .	16. Consulting Engineer to the Government of India (Roads), Ministry of of Transport, New Delhi.

Development Board . . .	17. The Secretary, Development Board, New Delhi.
Central Board of Irrigation . .	18. Shri A. N. Khosla, I.S.E., President, Central Board of Irrigation, C/o Secretary, Central Board of Irrigation, Kennedy House, Simla S. W.

CONSTITUENT ASSEMBLY OF INDIA (LEGISLATIVE)

19. Nawab Muhammad Ismail Khan, 210-A, Sadar Bazar, Mustafa Castle, Meerut.
20. Dr. Punjabrao Sharmrao Deshmukh, Amraoti.
21. Shri Biswanath Das, Hospital Road, Berhampore, District Ganjum, B.N. Railway (Orissa).
22. Shri Suresh Chandra Majumdar, 1, Burman Street, Calcutta.
23. Prof. Yashwant Rai, c/o Shri Prithvi Singh Azad, M.L.A., P. O. Nayashahr, Tehsil Kherar, District Ambala.

PROVINCIAL GOVERNMENTS.

Government of Madras . . .	24. Joint Director of Industries and Commerce, Madras.
Government of Bombay . .	25. Hon'ble Mr. B. G. Kher, Prime Minister. or Director of Public Instruction, Bombay Province, Poona.
Government of West Bengal . .	26. The Hon'ble Minister for Education, West Bengal or his nominee.
Government of Bihar . . .	27. The Director of Industries, Bihar.
Government of Assam . .	28. The Hon'ble Minister for Industries, Assam or The Director of Industries, Assam.
Government of Orissa . . .	29. Shri Bijayanand Patnaik, M.L.A., Cuttack.
Government of East Punjab . .	30.
Government of the United Provinces	31. The Hon'ble Minister of Industries, United Provinces, or Representative.
Government of the Central Provinces	32. Dr. V. S. Jha, Director of Public Instruction, C. P. and Berar, Nagpur.

INDIAN STATES

Hyderabad-Deccan . . .	33. Syed Ali Akbar, M.A. (Cantab), Director of Public Instruction, H. E. H. the Nizam's Government.

Mysore	34. Director of Public Instruction, Mysore (R. Kasturi Raj Chetty, B.A., B.L. Dip. Edn.)
Central India States (Holkar Government).	35. Captain H. B. Richardson, A. B. (Princeton), M.A. (Hons.), (Cambridge), Education Minister, Indore.
States of Western India, Gujarat and Baroda.	36. Raj Priya Dinshaw R. Daboo, B.A., Development Member, Baroda Government, Baroda.
Madras States, Travancore and Cochin.	37. Major D. L. Deshpande, B.Sc. (Hons.,) M.Sc. (Eng.), M.I.E., A. M. I. E., Principal, Engineering College, Trivandrum.

INDUSTRY, COMMERCE AND LABOUR

Associated Chambers of Commerce of India, Calcutta.	38. Mr. A. Farrington, c/o M/s. Greaves Cotton and Co., Ltd., 1, Forbes Street, Fort, Bombay.
	39. Mr. J. A. Murray, Messrs. Jardine Skinner & Co., Calcutta.
All India Organisation of Industrial Employers, Bombay.	40. Mr. M. A. Master, General Manager, Scindia Steam Navigation Co. Ltd., Scindia House, Ballard Estate, Bombay.
	41. Dr. K. A. Hamied, c/o C.I.P.L.A., Manufacturers of Chemical and Pharmaceutical Products, 289, Belassis Road, Byculla, Bombay.
Federation of Indian Chambers of Commerce and Industry, New Delhi.	42. Mr. K. D. Jalan, Senior Vice President, Indian Chambers of Commerce, 102-A, Clive Street, Calcutta.
	43. Sir Shri Ram, 22, Curzon Road, New Delhi.
Indian National Trade Union Congress, Bombay.	44. Shri Harihar Nath Shastri, 11/39, Gwaltoli, Kanpur.
The Employers Federation of India, Bombay.	45. Mr. G. V. Apte, Superintendent of Training, the Tata Iron and Steel Company Limited, Jamshedpur (Via Tatanagar).
	46. Dr. K. Venkataraman, D. Sc., Director, Department of Chemical Technology, University of Bombay, Matunga, Bombay.
The All India Trade Union Congress.	47. Mr. Chakkrai Chettiar, c/o Madras Provincial Committee of All India Trade Union Congress, 157, Sharaf Ali House, Broadway, Madras.
	48. Mr. Vithal Chowdhary, M.Sc., Daivi Building, Parel, Bombay.
The Indian Federation of Labour, Delhi.	49. Miss Maniben Kara, Cumbala Hills, 7, Huges Road, Bombay.

All India Railwaymen's Federation .

50. Mr. J. N. Mitra, Indian Federation of Labour, Albert Hall, 15, Bunkim Chatterji Street, Calcutta.
51. Mr. S. Guruswami, General Secretary of the All India Railwaymen's Federation, Mylapore, Madras.

CENTRAL ADVISORY BOARD OF EDUCATION

52. Sardar Bahadur Sardar Ujjal Singh, 12, Curzon Road, New Delhi.
53. Mr. S. M. Azam, Education Member H. E. H. the Nizam's, Government, Hyderabad (Deccan).

INTER-UNIVERSITY BOARD (INDIA).

54. Sir A. L. Mudaliar, B.A., M.D., D.Sc., F. R. C. O. G., F.A.C.S., Vice Chancellor of Madras University.
55. Dr. Shyama Prasad Mookherjee, M.A. B.L., Bar-at-Law, D. Litt., M.L.A., 77, Asutosh Mookherjee Road, Calcutta.

ASSOCIATION OF PRINCIPALS OF TECHNICAL INSTITUTIONS (INDIA).

56. N. N. Sen, Principal, Bengal Engineering College, Sibpore, Howrah.
57. Mr. P. N. Joshi, M.Sc., Technical, Principal, Victoria Jubilee Technical Institute, Bombay.

THE INSTITUTION OF ENGINEERS (INDIA)

58. Mr. N. V. Modak, C.I.E., J.P., B.E., M. Inst. C. E., M.I.E. (India), F. R. San. I., "Udyam" Near Sivaji Park, Bombay 28.
59. Mr. C. E. Preston, M. Engineering (Liverpool), M.B.E., M.I.E. (India), Special Officer, Department of Technical and Vocational Education, Mint Compound, Saifabad, Hyderabad (Deccan).

THE INDIAN INSTITUTE OF ARCHITECTS (BOMBAY)

60. Mr. H. N. Dallas, A.R.I.B.A., c/o Messrs. Parelkar and Dallas, Medows House, Medows Street, Fort, Bombay.

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THE NATIONAL PLANNING COMMITTEE

61. Dr. Sir J. C. Ghosh, D.Sc., F.N.I., Director General of Industry and Supply New Delhi.
62. Professor K. T. Shah, University Buildings, Fort, Bombay.

INDIAN CHEMICAL SOCIETY, CALCUTTA

63. Dr. B. C. Guha, D.Sc., Ph.D., F.N.I., Professor and Head of the Department of Applied Chemistry, University College of Science, 92 Upper Circular Road, Calcutta.

NOMINATED BY THE GOVERNMENT OF INDIA

64. Sir Fazal Ibrahim Rahimtoola, C.I.E., B.A., Ismail Building, Hornby Road, Bombay.
65. Dr. A. H. Pandya, Sc.D., M.I.E., 17, Raja Santosh Road, Calcutta.

SECRETARY.

Dr. S. R. Sen Gupta, B.Sc. (Glas.), Ph.D. (Glas.), Deputy Educational Adviser to the Govt. of India, Ministry of Education.

GIPD—M269 MofEdn—18-3-48—500.

Annexure B
3(a)

Third Meeting.
All India Council for Technical Education
CONFIDENTIAL

(109)

Proceedings of the 4th Meeting of the Co-ordinating Committee, of the All-India Council for Technical Education held at New Delhi on the 15th November, 1947.

1. The fourth meeting of the Co-ordinating Committee of the All-India Council for Technical Education was held at New Delhi on the 15th November, 1947, under the Chairmanship of Mr. N.R.Sarker. The following members were present :-

1. Mr. N.R.Sarker (Chairman)
2. Prof. B.N.Banerjee
3. Mr. Walter George
4. Sir J.C.Ghosh
5. Dr. V.S.Jha
6. Rai Bahadur N.K.Mitra
7. Mr. N.V.Modak
8. Sir John Sargent
9. Dr. S.R.Sen Gupta (Secretary)

Principal P.N.Joshi, a member of the Council attended on behalf of Sir Vithal Chandavarker, Chairman of the Board of Textile Technology. Pandit Govind Malviya who was a representative of the previous Central Legislature, and therefore according to the constitution of the Council ceased to be a member of both the Council and its Co-ordinating Committee with effect from the 15th August, 1947, was also present by special invitation. Sir S.S.Bhatnagar, Sir Padampat Singhania, Sir Vithal N.Chandavarker, Major D.L.Deshpande, Dr. K.A. Hamied, Sir A.L.Mudaliar and Mr. G.L.Mehta were unable to attend (The agenda of the meeting is shown in Annexure I).

It [illegible]

Item No. 1 To report that the proceedings of the third meeting of the Co-ordinating Committee held at Bangalore on the 27th and 28th May, 1947, were confirmed by circulation to members. The proceedings were considered by the All India Council for Technical Education at its second meeting held on the 29th and 30th May, 1947.

2. It was reported that the proceedings of the third meeting of the Co-ordinating Committee held at Bangalore on the 27th and 28th of May 1947 were confirmed by circulation to members and were considered by the All-India Council for Technical Education at its meeting held on the 29th and 30th May 1947.

Item No. II. To receive and consider the report of the Sub-Committee appointed by the Co-ordinating Committee to scrutinise the reports of the Visiting Committees and to make recommendations for grants to the institutions concerned.

3. The Committee then considered the report of the Scrutinising Committee (Annexure II) which met at New Delhi on the 14th November, 1947 and expressed satisfaction with the soundness of the recommendations made by the Scrutinising Committee. As already decided by the Council, the Committee reiterated their view that the following important institutions of engineering and technology should be strengthened and developed immediately by means of financial assistance from the Central Government :-

I. Engineering College, Banaras Hindu University.
II. College of Engineering and Technology, Jadavpur
III. Victoria Jubilee Technical Institute, Bombay
IV. College of Mining and Metallurgy, Banaras Hindu University.
V. College of Technology, Banaras Hindu University.
VI. Department of Chemical Technology, Bombay University.
VII. Lakshminarayan Institute of Technology, Nagpur University.
VIII. Department of Applied Chemistry, College of Science and Technology, University of Calcutta.
IX. Department of Applied Physics, College of Science and Technology, University of Calcutta.
X. Jaipur Vikram Deo College of Science and Technology, Andhra University.
XI. The Allagappa Chettiar College of Chemical Technology, Madras University.

XII. College of Engineering and Technology, Muslim University, Aligarh.
XIII. College of Engineering, Annamalai University.
XIV. Dayalbagh Technical College, Agra.

4. The Committee considered the relative merits of the different institutions from the point of view of recommending financial assistance for strengthening them. They agreed with the Scrutinising Committee that of the 14 institutions listed above, the last three, namely, the College of Engineering and Technology, Muslim University, the College of Engineering Annamalai University and the Dayalbagh Technical College, Agra, should be treated on a different footing from the rest for the reason that not much progress had been made with the Engineering Colleges of Annamalai and Aligarh Universities, whereas the Dayalbagh Technical College, although a good one of its kind, required to be strengthened considerably to bring it to the standard of an Engineering College providing degree courses. The Committee, therefore, recommended that grants to these institutions should be made by the Central Government only after the institutions had raised sufficient funds from other sources to meet at least a third of the total capital and recurring cost involved in bringing them up to the requisite standard.

5. The Committee then considered the basis of assessment of the minimum requirements in respect of building space, equipment, library, etc., in a good institution of Engineering and Technology; the minimum recurring cost of technical education, hostel accommodation etc., and the present day building costs. The Committee agreed with the assessments made by the Scrutinising Committee as set out below :-

(a) College Building (to include instructional space, Workshops, laboratories, office etc.) A good Engineering College providing in the main undergraduate courses should have a minimum floor area calculated on the basis of 200 sq ft. per student and a Technological Institution providing mainly post-graduate courses and research facilities should have a minimum floor area calculated on the basis of 300 sq ft. per student.

(b) Laboratory equipment and Workshop (Machinery and Tools)

Considering the present market prices, the equipment, library etc. should be provided at the rate of atleast Rs.5,000/- per student, if an institution is to be adequately equipped.

(c) Cost of education.

The Committee agreed with the Scrutinising Committee that at a properly staffed institution the cost of education would amount to approximately Rs. 1,000 per student per annum for Engineering and Rs. 1200 per student per annum for Chemical Technology and Chemical Engineering Degree courses. The latter figure may prove to be a little low for post-graduate and research institutions.

(d) Hostel accommodation.

In regard to hostel accomodation, provision should be made at the rate of 150 sq. ft. per hostel seat and Rs. 150 per seat for furniture and fittings.

(e) Building Cost.

The cost of college building should be calculated at the rate of Rs. 12/8/- per sq. ft. and that of hostel buildings at the rate of Rs. 10/ per sq. ft. For Calcutta and Bombay, the figures should be Rs. 15/- and Rs. 12/8/- per sq. ft. respectively. In the case of institutions providing mainly post-graduate instruction and research facilities, an additional provision at the rate of Rs. 5/- per sq. ft. would be required to meet the extra cost of fittings and furnishings.

6. With regard to the conditions to be imposed on the institutions receiving grants the Committee decided on certain modifications of the recommendations made by the Scrutinising Committee in this behalf. The conditions as amended are as follows:-

(i) While no encroachment on the autonomy of the Universities is suggested, syllabuses of studies should be in harmony with the pattern adopted by the All-India Council for Technical Education.

(ii) (a) The non-University institutions shall include in the Selection Committee appointed for the purpose of recruitment of staff, independent experts with the approval of the All-India Council for Technical Education.

(b) In the case of colleges or departments under the administrative control of universities, the appointment of staff shall be made by Selection Committee constituted in accordance with the Universities' Acts and rules, or if the appointment of selection committees is not specifically provided for in the University Act, the rules for the appointment of such Committees shall be framed with the approval of the Inter-University Board. In every case, the All-India Council for Technical Education shall be acquainted with the rules and regulations for the selection and appointment of staff.

(iii) Equipment for laboratories of various types and workshops shall be generally as prescribed by the All-India Council for Technical Education.

(iv) Grant under a particular head shall not be utilised for purposes other than that for which it is intended except with the general approval of the All-India Council for Technical Education.

(v) (a) A visiting committee or an inspector appointed by the All-India Council for Technical Education shall periodically visit the non-University institutions receiving grants and report to the Council whether the grants given by the Government are being properly utilised and also whether proper standards of teaching and examination are being maintained.

(b) In the case of University Departments, or Institutions administered directly by Universities, the University concerned, shall appoint a Visiting committee in accordance with its own rules. xxxxxxxxxxxxxxxxxxxxx where ..

such rules do not exist already, the University will be, recuired to frame them in consultation with the University Grants Committee. Such Visiting Committees shall inspect the institutions annuallyand report to the Universities whether the Government grants are being properly utilised and proper standard of instruction and examination maintained. The Universities shall forward copies of all such reports to the All-India Council for Technical Education.

(vi) Where degree course as well as diploma courses of a definitely lower standard than the degree in the same subject, are being taught, the diploma courses shall be discontinued or separated from the College or Institution receiving grant, so that no portion of the capital or recurring grant is utilised either directly or indirectly except for the promotion of higher technical education.

(vii) Receipients of recurring grant shall bring the salary scale of teaching staff and their qualifications to the level recommended by Central Government within three years from the date from which the grant is made.

(viii) In the case of non-university institutions, the appointment of Professors or Heads of Departments for a period exceeding three months shall be subject to the approval of the All-India Council for Technical Education. The placing of the present incumbents on professorial status or the status of Heads of Departments carrying the salaries prescribed by the Central Government shall also be subject to the approval of the Council.

(ix) The Central Government shall determine the quota for each province for purposes of admissions to the institutions concerned, especially to those additional seats which may be provided as a direct result of the grant from the Central Government.

(x) Capitation fees shall not be charged in respect of students admitted under the quota system fixed by the Central Government.

(xi) (a) The Central Government shall have atleast two seats for its nominees on the Managing Committee or the Governing Body (consisting of say 12 members) of non-university institutions and the All-India Council for Technical Education shall also have two seats thereon. Provision should also be made for the teaching staff to be adequately ...

represented on the Managing Committee or the Governing Body of the Institutions.

(b) In the case of institutions or departments administered directly by a University, the Central Government and the All-India Council for Technical Education shall have the right to nominate one member each on the Committee of Management or on the Advisory Committee.

(xii) The number of students to be admitted each year and the total strength of the student population of the College or the Institution shall not exceed the number which may be fixed from time to time by the All-India Council for Technical Education.

7. 7. The Committee then considered the question of capital grants by Government for the construction of hostels and agreed with the Scrutinising Committee that the assistance for the purpose of providing hostels should be in the nature of an interest-free loan repayable to the Government within 33 years.

The Committee also endorsed the view of the Scrutinising Committee that for the present, the Government need not give any grant or loan for building staff quarters.

8. Nature of financial assistance and spread of grants.

The Committee recommended that the financial assistance from the Central Government should be in the nature of

(I) Capital grant for college building and equipment etc.

(II) Annual recurring grant towards the cost of education, to meet the excess of recurring expenditure on salaries, stores and contingencies etc. over income from endowments, student fees etc.

(III) An interest-free loan for the purpose of providing student hostels repayable to the Government within 33 years.

As regards the mode of payment of grants and loans the Committee came to the following conclusions :-

(a) The entire capital grant for the construction of college buildings should be spread over a period of three years ending in the financial year 1949-50. Similarly the loan for construction of student hostels should be spread over the same period.

(b) The capital grant for equipment may be spread over a period of four years ending in the financial year 1950-51 in the following manner :-

5 per cent of the total recommended, in the year 1947-48
15 " " " " " 1948-49
60 " " " " " 1949-50
20 " " " " " 1950-51

If, however, the position regarding the availability of equipment improves to some extent, the grant may be allocated as follows :-

5 per cent in the year 1947-48
30 " " 1948-49
45 " " 1949-50
20 " " 1950-51

The grant on equipment normally spread over a period of five years may however be differently adjusted if the Government is satisified that an institution or institutions can arrange to acquire the necessary and requisite equipment at an early period.

(c) The recurring grant should be so arranged that in the fifth year, i.e. in the year 1951-52, an Institution should be receiving the maximum grant recommended.

The allocation may be as follows :-

20 per cent of the max. grant recommended, in the year 1947-48
40 -do- 1948-49
60 -do- 1949-50
80 -do- 1950-51
100 -do- 1951-52

The reasons for the above allocation are mainly [illegible] :-

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as follows :-

(i) Increase in the student population would be gradual

(ii) It would take the institutions some time to properly re-organise their staff.

The Committee, however, recognised that suitable re-adjustments may be necessary to suit individual institutions and recommended that the allocation indicated above should be regarded as purely tentative and the Government should make suitable adjustments so as to enable the institutions to recruit competent staff as early as possible.

(d) Interim Relief.

In the case of College of Engineering and Technology, Jadavpur, the Victoria Jubilee Technical Institute, Bombay, and the College of Engineering, Banaras Hindu University. the Committee recommended that the Government should give immediately some interim grants in addition to the grants etc. recommended for the year 1947-48, for the Committee learns that the Jadavpur and the Banaras Colleges were in financial difficulties and the Victoria Jubilee Technical Institute also required financial assistance to cope with the refugee students from Sind. The amount of such interim relief should, however, be determined by the Ministry of Education and the grants so given deducted from the amounts payable in subsequent years.

9. The Committee was informed that a large amount of surplus equipment suitable for educational purposes were available in U.S. America and they expressed the opinion that since the procurement of equipment was a matter of great urgency and required immediate consideration, the Government of India should depute two or three suitable officers immediately to go abroad for the purpose of facilitating .....

purchase and shipment of the equipment required by the Technical Institutions in the country. The delegation should be empowered to enter into necessary financial commitments for this purpose. The Committee was informed by the Chairman that contacts may be made with America through Dr. B.C.Roy who had returned from America recently and knew the details of how that arrangement could be made.

10. Grants to University Institutions.

The Committee was of the opinion that since the scope of the University Grants Committee was for the present limited to the three Central Universities, the Ministry of Education should take necessary action so that the grants recommended for non-central university institutions are made immediately available to them, without waiting for the extension of the scope of the University Grants Committee. With regard to the Central Universities, it was recognised that the Ministry of Education would take such action as it may consider appropriate. The Committee, however, was of the opinion that the Government should immediately take such action as would ensure the timely disbursement and utilisation of grants recommended forthe year 1947-48. The Committee felt that it should be left entirely to the discretion of the Ministry of Education whether they should apprise the University Grants Committee of the action which they might take in respect of grants to the non-central universities.

11. Recommended annual intakes and other observations.

The Committee then considered the question of annual intake of students into various institutions recommended for financial assistance. Their views in this and other related matters are given below. The Committee, however, recognised that the intake which they now considered appropriate might require to be modified from time to time by the All-India Council for Technical Education.

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(I) College of Engineering, Banaras Hindu University.

The number of annual admissions should be 160, i.e. 80 each for the mechanical and electrical engineering degree course for the present, and later on this number may be changed to 60, 60 and 40 for mechanical, electrical and civil engineering degree courses respectively when in the opinion of the Council the College has been sufficiently strengthened.

(II) College of Engineering & Technology, Jadavpur.

The annual admission to the College should be 200 - 80, 60 and 60 in the mechanical, electrical and chemical engineering degree courses respectively.

The Institution should be required to either discontinue the junior courses (diploma and certificate courses) and the agriculatural course; or to provide these courses in an entirely separate institution, within a period of three years from the receipt of the first grant. It may be mentioned here that the grant is entirely for the Engineering section of the College.

(III) Victoria Jubilee Technical Institute.

In addition to the present rate of admission of 40 students to the combined mechanical and electrical degree courses, the institution should admit 20 more students; and in addition to the present rate of admission of 10 students to the Textile Manufacture Degree course, the institution should admit ten more students. Civil Engineering Degree courses should also be introduced immediately with an annual intake of 50 students and a Chemical Engineering Degree course should also be introduced immediately in collaboration with the Bombay University Chemical Technology Department with an annual intake of 20 students.

IV. College of Mining and Metallurgy, Banaras Hindu University.

The annual rate of admission to this College should be as follows :-

Mining	... 16
Metallurgy	... 32

The Committee endoresed the view of the Scrutinising Committee that the Fuel Technology course should not be introduced.

(V) College of Technology, Banaras Hindu University.

The annual intake of students in the pharmaceutics departments and the industrial chemistry should be 22 and 30 respectively.

The Committee was not in favour of recommending any financial assistance for the Ceramics and Glass Technology Department of these institutions and decided that no portion of the grant recommended should be utilised for this Department.

(VI) Department of Chemical Technology, University of Bombay.

The Department should admit the following additional students to the degree courses and for research work:-

Textile Chemistry	= 18
Plastics & Paints and Varnishes	= 9
Oils, Fats & Soaps	= 8
For research leading to M.Sc., (Tech. or Ph.D.)	= 20

In addition to the above, 20 students should be admitted each year to a Chemical Engineering Degree courses which should be introduced immediately and run in collaboration with the V.J.T.I..

(VII) Lakshminarayan Institute, of Technology, Nagpur.

The Institution should admit 72 I.Sc. students to the revised four-year B.Sc(Tech.) Degree course and 12 students for research leading to degrees of M.Sc., Ph.D. or D.Sc.

The Committee endorsed the Scrutinising .....

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Committee's view that the Government of India should inform the Institution that in the opinion of the All-India Council for Technical Education, frequent changes in the senior staff as seem to have taken place in this Institutions cannot be conductive to its proper growth.

Dr. Jha reported that although the Institution has been established with private endowment, it was under the administrative control of the Nagpur University. The Committee directed that this should be verified and the Institution treated as a University or a non-University Institution as the case might be.

(VIII) Department of Applied Chemistry, University College of Science and Technology, Calcutta University.

The annual intake of students to the M.Sc. course should be 36 and to the special diploma course 20. The number of research workers should be increased from 25 to 50. The Committee approved of the proposal for the introduction of new sections of Plastics and Chemical Engineering.

(IX) Department of Applied Physics, University College of Science and Technology, Calcutta University.

The Committee approved of the proposal for splitting up this Department into two Departments namely, the Department of Applied Physics and a new Department of Radio Physics and Electronics and recommended that the annual admission to the M.Sc. course in Applied Physics should be 40 and that there should be provision for 16 research students.

It was also recommended that the capital and recurring grants to the Applied Physics Department should be 2.15 lakhs and 0.5 lakhs respectively.

The annual admission to the new Department of Radio Physics and Electronics should be 20 and there should be provision for 8 research workers. The Committee recommended that the capital and recurring grants for this new Department should be Rs.5.47 and Rs. 0.792 lakhs respectively.

(X) (x) Jaipur Vikram Deo College, Andhra University.

The Committee approved of the proposal to split up the Department of Chemical Technology into two Departments, namely, the Department of Chemical Technology and a new Department of Pharmacy and recommended that grants should be made available for strengthening these two Departments.

The annual intake should be 21 students for degree courses in the Department of Chemical Technology and 18 students for the degree courses in Pharmacy and there should be provision for three research workers in Pharmaceutics.

The Committee felt that the Department of Chemistry did not come within their purview.

(XI) Alagappa Chettiar College of Technology, Madras University.

The Department of Chemical Technology should admit 30 students per year.

It was decided not to recommend any grant for the Leather Technology Department since a recurring annual grant is made to this Department by the Council of Scientific and Industrial Research.

It was also decided that no capital grant should be made to the Textile Technology Department since the Department formed part of the Government Textile Institute. A recurring grant of Rs.40,000 was, however, recommended for this Department to enable the University to appoint Professors and other necessary staff.

(XII) College of Engineering, Muslim University, Aligarh.

For the next four or five years or until the institution was properly developed and organised, admissions to this College should be 90 students only, i.e. 30 in each of the Departments of Civil, Mechanical and Electrical Engineering.

The Committee noted with regret that this Engineering College, although forming a part of the Central University, was very poorly equipped in the matter of staff and equipment. The Ministry of Education should, therefore, be asked to note the unfavourable comments made by the Visiting Committees appointed by the All-India Council for Technical Education.

As already mentioned the Committee was of the opinion that the authorities of the Institution should be asked to raise sufficient funds to meet atleast one third of the Capital and recurring expenditure required to strengthen the College before the Central Government consider giving any further grant to this institution. The Committee were emphatic that the Central Government should make sure that a third of the capital and recurring cost involved for strengthening this Institution has been raised by the University authorities before they make any further grant.

It may be noted that the grant recommended by the Committee constitutes in their opinion, two thirds of the total capital and recurring expenditure and interest-free loan required for strengthening this institution.

(XIII) College of Engineering, Annamalai University.

The annual admission for the next five years should be 60 students, i.e. 30, 15 and 15 in Civil, Mechanical and Electrical Engineering Departments respectively. Here also, the University authorities should raise a third of the capital and recurring cost involved before the Central ...

Government agree to make the two thirds of the grant which the Committee recommends in the following paragraph:-

(XIV) Dayalbagh Technical College, Agra.

The annual admission should be 60 students, i.e. 30 in Mechanical and 30 in Electrical Engineering Degree courses.

The authorities of this institutions should also raise sufficient funds to meet atleast a third of the estimated capital and recurring cost required to strengthen this Institution before the Central Government gives the grant amounting to two thirds of the development cost as recommended by the Committee.

12. Capital and Recurring Grants and Interest free loans.

The Committee then considered the financial implications of the above recommendations. The detailed calculations will be seen in Annexure III. A summary of the grants which the Committee recommends is given below :-

Sl. No.	Institution	Capital grant in lakhs of rupees. Bulding	Equipment	Ultimate Recurring grant in lakhs	Interest free loan for hostels.
1	2	3		4	5
i.	Engineering College, Banaras Hindu University	3.12	16.87	5.12	3.96
II.	Jadavpur Engineering College.	5.38	24.00	6.48	14.175
III.	V.J.T.I. Bombay	7.60	9.87	2.06	4.340
IV.	College of Mining and Metallurgy, Banaras Hindu University.	3.11	6.85	1.53	3.17
V.	College of Technology, Banaras Hindu University	1.30	4.20	2.08	2.18
VI.	Dept. of Chemical Technology Bombay University.	3.34	3.06	1.07	3.24
VII.	Laxminarayan Tech. Inst., Nagpur.	5.07	1.50	0.47	1.39

...

1	2	3	4	5	6
VIII.	Dept. of Applied Chemistry Calcutta University.	4.52	2.81	1.202)	3.00
IX.	Dept. of Applied Physics and Radio & Electronics, Calcutta University.	5.25	2.38	1.29)	
X.	Jaipur Vikram Deo College, Andhra University.	3.20	2.27	0.70	
XI.	Alagappa Chettiar College, Madras.	2.50	2.50	0.60 For Chem.Technology Deptt. 0.40 For Textile Technology Deptt.	
	Total for I to XI.	44.39	76.31	23.022	35.455
XII.*	Engineering College, Aligarh.	2.14	10.813	1.92	3.96
XIII*	Engineering College, Annamalai.	3.33	7.33	1.28	2.64
XIV*	Dayalbagh Technical College, Agra.	3.00	7.06	1.28	2.0
X	Total for XII to XIV	8.47	25.203	4.48	8.60
	Grand Total	52.86	101.513	27.502	44.055

* In the case of these institutions grants etc. have been calculated at 66.6% of the total estimated cost of development.

Item III. To report the action taken by the Government of India on the recommendations made by the Co-ordinating Committee at its third meeting held on May 27 and 28, 1947 and by the All India Council for Technical Education at its second meeting held on May 29 and 30, 1947.

13. It was decided to record the information.

Item IV. To receive and consider a note on the activities of the All India Boards of Technical Studies.

14. It was decided to record the information.

It was suggested by a few members that supplementary examinations might be held. Since the number of candidates involved was extremely small, the Committee decided to postpone the consideration of this issue until a later date.

The Committee endorsed the views of the Boards of Engineering and of Chemical Technology, that a second examination should not be held for those candidates who failed to appear at the last examination and that such candidates may be permitted to take the next examination in the normal course.

Item V. To consider the draft of a memorandum to be submitted to the Inter-University Board on the subject of collaboration between the All India Council for Technical Education and the Board.

15. The draft memorandum for submission to the Inter-University Board on the subject of collaboration between the All-India Council for Technical Education and the Board was approved and the Secretary was directed to issue it immediately to the Secretary of the Inter-University Board.

Item VI. To receive the interim report of the Scientific Man-Power Committee.

16. The Committee expressed its appreciation of the Interim report of the Scientific Man-Power Committee and its agreement in principle with the recommendations made in that report. The Committee further recommended that the Government of India should take immediate steps for the implementation of these recommendations.

Item VII. To consider the question of reconstitution of the All India Boards of Technical Studies on the expiry of their present term on the 31st December, 1947.

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17. It was noted that the All-India Boards of Technical Studies have to be re-constituted on the 1st. of January, 1948. The Chairman was authorised to select the specialists to be nominated by the Co-ordinating Committee on each of these Boards. It was further decided that any member of the Co-ordinating Committee who had names to suggest should intimate to the Secretary before the 31st. December, 1947.

Item VIII. To receive and consider a letter dated the 15th July, 1947, from Col. Beeching Special Officer, Technical and Vocational Education Department, Hyderabad (Deccan), on the question of establishment of 'Engineers Council for Professional Development' in India, and to make recommendations.

18. The Committee considered the issue raised in Col. Beeching's letter but regretted that the question of professional ethics was a matter which the Institution of Engineers (India) was the competent body to deal with and not the All-India Council for Technical Education.

Item IX. To report that Sir J.C.Ghosh, Director, Indian Institute of Science, Bangalore, has been nominated to represent the All India Council for Technical Education on the General Council of the Indian Standards Institution set up by the Department of Industries and Supplies.

19. The Committee approved of the nomination of Sir J.C. Ghosh to the Indian Standards Institution as a representative of the All-India Council for Technical Education.

Item X (a) To consider letter No. 1205E dated the 14th October 1947 from the Government of East Punjab on the subject of location of the Northern Higher Technical Institution.

20. It was felt that consideration of the question of location of the northern higher technical institution was premature since the Government of India have decided to set up only two out of the four higher technical institutions within the first quinquennium. In any case, the matter could be considered only after the East Punjab Government had established themselves and had decided the location of their capital.

Item X (b) To receive a note on the discussion between Major D.L.Deshpande, (the representative of the All India Council for Technical Education on the Training Sub-Committee of the Central Employment Advisory Committee) and Mr. S.N.Roy Director of Training, D.G.R. & E held on 5th June 1947.

21. It was decided to record the information.

Item X (c) To consider a note on the formation of Regional Committees of the All India Council for Technical Education and to make necessary recommendations.

22. The Committee noted the views expressed by the various provinces and States on the question of formation of the Regional Committees of the All-India Council for Technical Education and decided that the composition of the regions should be as follows :-

Northern Region - East Punjab, U.P., Delhi, Central India and Rajputana States and Kashmir & Jammu States when the latter had finally acceded to the Indian Union.

Eastern Region - Assam, West Bengal, Bihar, Orissa, Tripura and the other Eastern India States.

Southern Region - Madras, Mysore and the other South India States and the Hyderabad State if the latter accedes to the India Union.

Western Region - Bombay, Central Provinces, and Berar and the Western India States,

The Committee desired that the Government of India should set up these Committees at an early date in consultation with the Provincial Governments.

Item X (d) To consider the question of selection of a site near Calcutta for the Eastern Higher Technical Institution.

23. The Committee noted that the Ministry of Railways had decided not to locate the Locomotive Workshop at Kanchrapara, where a site in proximity to the site reserved for the workshop had been provisionally selected for the Eastern Higher Technical Institution. The Committee expressed the opinion that it did not appear to be particularly desirable to locate the Eastern Higher Technical Institution at the Kanchrapara site now and suggested that the Government of India should request the Government of West Bengal to acquire a piece of land

measuring at least 600 acres within a radius of ten miles from Calcutta - the site to have adequate facilities for water and electric supply. Pandit Govind Malaviya wished it to be recorded that he was apposed to locating the Eastern Higher Technical Institution so near Calcutta which is very close to the frontier between India and Eastern Pakistan. The Committee, however recognised that the final decision regarding the selection of sites within the convenient reach of the industrial area of Calcutta should rest with the Government of India.

Item X (e) To consider suitable abbreviations for the All India Diplomas in various subjects which the diploma holders may be permitted to affix to their names.

24. It was decided to postpone the consideration of this item to a later date.

Item X (f) To report the appointment of Major D.L. Deshpande Principal, Engineering College, Travancore University as a representative of the All India Council for Technical Education on the Standing Advisory Committee on Power Engineering of the Indian Institute of Science, Bangalore.

25. The Committee approved of the appointment of Major D.L.Deshpande on the standing Advisory Committee on Power Engineering of the Indian Institute of Science. Bangalore as a representative of the All India Council for Technical Education

26. The Chairman mentioned that Sir John Sargent, the Educational Adviser to the Government of India, and a member of the All-India Council for Technical Education and the Co-ordinating Committee was due to proceed on leave preparatory to retirement on the 19th November, 1947. Members spoke eloquently of the yeoman service which Sir John had rendered to the cause of education in India and in particular to the

establishment of the All-India Council for Technical Education and its development. The Committee decided to place on record their appreciation of the work of Sir John Sargent in and outside the Committee for the promotion and co-ordination of higher technical education in India.

27. The meeting then terminated with a vote of thanks to the Chair.

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Annexure 1

Co-ordinating Committee
of the
All India Council for Technical Education.

Fourth Meeting.

Place: New Delhi. Date: 15th November 1947.

AGENDA

1. To report that the proceedings of the third meeting of the Co-ordinating Committee held at Bangalore on the 27th and 28th May, 1947, were confirmed by circulation to members. The proceedings were considered by the All India Council for Technical Education at its second meeting held on the 29th and 30th May, 1947.

2. To receive and consider the report of the Sub-Committee appointed by the Co-ordinating Committee to scrutinise the reports of the Visiting Committees and to make recommendations for grants to the institutions concerned.

3. To report the action taken by the Government of India on the recommendations made by the Co-ordinating Committee at its third meeting held on May 27 and 28, 1947 and by the All India Council for Technical Education at its second meeting held on May 29 and 30, 1947.

4. To receive and consider a note on the activities of the All India Boards of Technical Studies.

5. To consider the draft of memorandum to be submitted to the Inter-University Board on the subject of collaboration between the All India Council for Technical Education and the Board.

6. To receive the interim report of the Scientific Man-Power Committee.

7. To consider the question of reconstitution of the All India Boards of Technical Studies on the expiry of their present term on the 31st December, 1947.

8. To receive and consider a letter dated the 15th July, 1947, from Col. Beeching Special Officer, Technical and Vocational Education Department, Hyderabad (Deccan), on the question of establishment of 'Engineers Council for Professional Development' in India and to make recommendations.

9. To report that Sir J.C.Ghosh, Director, Indian Institute of Science, Bangalore, has been nominated to represent the AllIndia Council/General Council for Technical Education on the Indian Standards Institution set up by the Department of Industries and Supplies.

10. Any other business .

(a) To consider letter No. 1205E dated the 14th October 1947 from theGovernment of East Punjab on the subject of location of the Northern Higher Technical Institution.

(b) To receive a note on the discussion between Major D.L.Deshpande, (the representative of the All India Council for Technical Education on the Training Sub-Committee of the Central Employment Advisory Committee) and Mr. S.N. Roy Director of Training, D.G.R. & E held on 5th June 1947.

(c) To consider a note on the formation of Regional Committees of the 'All India Council for Technical Education and to make necessary recommendations.

(21)

(d) To reconsider the question of selection of a site near Calcutta for the Eastern Higher Technical Institution.

(e) To consider suitable abbreviations for the All India Diplomas in various subjects which the diploma holders may be permitted to affix to their names.

(f) To report the appointment of Major D.L. Deshpande Principal, EngineeringCollege, Travancore University as a representative of the All India Council for Technical Education on the Standing Advisory Committee on Power Engineering of the Indian Institute of Science, Bangalore.

Annex. III.

Proceedings of the Scrutinising Committee of the All-India Council for Technical Education held at New Delhi on the 14th November, 1947.

The All-India Council for Technical Education at its second meeting held at Bangalore in May 1947, while considering the reports of the Visiting Committees appointed to inspect some of the technical institutions in the country, had agreed with the recommendations of the Co-ordinating Committee arising out of those reports, that more Visiting Committees should be appointed to visit and inspect the

(1) Jaipur Vikram Deo College of Science and Technology, Waltair, Andhra University.

(2) Chemical Technology Dept., of the Madras University.

(3) Departments of Applied Physics and Applied Chemistry.of the University College of Science and Technology, Calcutta University and

(4) Lakshminarayan Institute of Technology, Nagpur University.

in addition to the seven institutions already visited; and that a small scrutinising committee should scrutinize the recommendations of the Visiting Committees and submit for consideration of the Co-ordinating Committee specific recommendations for strengthening and improvement of each of the institutions reported upon.

The following Scrutinising Committees was appointed:-

Mr. N.R. Sarker - Chairman.

Sir S.S. Bhatnagar.
Sir J.C. Ghosh.
Mr. G.L. Mehta.
Mr. N.V. Modak.
Sir A.L. Mudaliar.
Sir John Sargent.
Dr. S.R.Sen Gupta - Secretary.

2. The Committee met at New Delhi on the 14th November 1947 under the Chairmanship of Mr. N.R. Sarker.

The following members were present :-

Mr. N.R.Sarker - Chairman.
Sir J.C. Ghosh.
Mr. N.V. Modak.
Dr. S.R.Sen Gupta - Secretary.

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Dr. D.M. Sen of the Ministry of Education attended on behalf of Sir John Sargent, Educational Adviser to the Government of India.

Sir S.S. Bhatnagar, Mr. G.L.Mehta, Sir A.L.Mudaliar and Sir John Sargent were unable to attend.

3. The Committee had before them the Visiting Committee's reports on the following:-

(1) College of Engineering and Technology, Jadavpur.

(2) Victoria Jubilee Technical Institute, Bombay.

(3) Department of Chemical Technology, Bombay University.

(4) Engineering College, Benares Hindu University.

(5) College of Mining and Metallurgy, Benares Hindu University.

(6) College of Technology, Benares Hindu University.

(7) Dayalbagh Technical College, Agra.

(8) College of Engineering & Technology, Muslim University, Aligarh.

(9) College of Engineering, Annamalai University.

(10) Lakshminarayan Institute of Technology, Nagpur University.

(11) Department of Applied Chemistry, College of Science and Technology, University of Calcutta.

(12) Department of Applied Physics, College of Science and Technology, University of Calcutta.

(13) Jaipur Vikram Deo College of Science and Technology, Waltair, Andhra University.

The Visiting Committee's report on the Alagappa Chettiar College of Chemical Technology, Madras University, was not available. Sir J.C. Ghosh, the Chairman of the Committee had however examined the development plans of the institution and had discussed them with the head of the institution and was able to give his views in the matter of financial assistance which the institution should receive.

4. (a) Accommodation and Equipment.

At the outset the Committee considered the minimum requirements in respect of building space, equipment, library etc. and came to the conclusion that a good Engineering College should have a minimum floor area calculated on the basis of 200 sq.ft. per student and that the value of equipment, library

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facilities, etc. should come up to Rs. 5000 per student at the present market value.

(b) Cost of Education.

In the matter of cost of education, the Committee was of the view that it should amount to approximately Rs.1000 per student per annum for Engineering and Rs. 1,200 per annum per student for Chemical Technology and Chemical Engineering Degree courses.

(c) Hostel.

As regards hostel accommodation, the Committee was of the opinion that provision should be made at the rate of 150 sq.ft. per hostel seat and Rs. 150 per seat for furniture and fittings. Assistance given for the purpose of providing hostels should be in the nature of an interest free loan repayable to the Government within 33 years.

(d) Staff quarters.

The Committee was not in favour of granting any loan for building staff quarters for the present.

(e) Building cost.

It was agreed that except for Calcutta and Bombay the cost of the College building should be calculated at the rate of Rs. 12/8/- per sq.ft. and that of hostel buildings at the rate of Rs. 10/- per sq.ft. For Calcutta and Bombay, the figures should be Rs. 15/- and Rs. 12/8/- per sq.ft. respectively. In the case of post-graduate institutions, an additional provision at the rate of Rs. 5/- per sq.ft. should be made towards the cost of fittings and furnishing of the post-graduate department.

5. Relative Merits of Institutions.

The Committee then considered the relative merits of the respective institutions from the point of view of granting financial assistance for strengthening them. They came to the conclusion that of the 14 institutions, the following 3 namely the Annamalai University Engineering College, the Aligarh University Engineering College, and the Dayalbagh Technical

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College should be treated on a different footing from the rest for the reason that not much progress has been made with the Annamalai University College and the Aligarh Engineering College, whereas the Dayalbagh Technical College, although a good one of its kind, required to be strengthened considerably to bring it to the standard of an Engineering College. It was decided that grants should be made to the above three institutions only if they can raise funds to meet at least a third of the capital and recurring cost involved in bringing these institutions up to the requisite standard as indicated above.

6. Conditions for grant.

The Committee then considered the conditions under which grants may be made and came to the conclusion that the grants should be subject to the following general conditions:-

(i) Syllabuses of studies shall be in harmony with the pattern adopted by the All India Council for Technical Education.

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(ii) In the matter of appointment of staff for non-University Institutions, independent experts shall be included in the Selection Committees with the approval of the All India Council for Technical Education.

In the case of Colleges or Departments under the Administrative control of the Universities, the appointment of staff shall be made by the Selection Committees of the Universities with the approval of the Inter-University Board.

(iii) Equipment for various laboratories shall be generally as prescribed by the All India Council for Technical Education.

(iv) Grant given under one head shall not be used for purposes other than that for which it is intended except withthe approval of the All India Council for Technical Education.

(v) A Visiting Committee or Inspector appointed by the All India Council for Technical Education shall periodically visit the non-University Institutions receiving grants from the Central Government/report and to the Council whether the grants given by the Government are being properly utilised. In the case of University Departments or Institutions administered directly by the Universities, the University concerned shall appoint visiting committees in consultation with the University Grants Committee to visit annually the Institutions receiving grants from the Central Government and report whether the grants given by the Government were being properly utilised. Such reports shall be made available to the All India Council for Technical Education.

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(vi) Where degree courses as well as diploma courses of a definitely lower standard than the degree in the same subject are being taught, the Diploma courses shall either be discontinued or dissociated from the College or Institution receiving grant, so that no portion of the capital or recurring grant is utilised either directly or indirectly except for the promotion of higher technical education.

(vii) Recipients of recurring grants shall bring the scales of salaries of teaching staff and their qualifications to the level recommended by the Central Government within three years from the date which the grant is first made.

(viii) In the case ofnon-University Institutions, the appointment of Professors or Heads of Departments shall be subject to the approval of the All India Council for Technical Education. The placing of the present incumbents on Professiorial status or the status of Heads of Departments carrying the salaries prescribed by the Central Government shall also be subject to the approval of the Council in the case of non-University Institutions.

(ix) The Government shall determine the quota for each province for purposes of admissions to the Institutions concerned, especially to those additional seats which may be provided as a direct result of the grant from the Central Government.

(x) Capitation fees shall not be charged in respect of the students admitted under the quota system fixed by the Central Government.

(xi) The Central Government shall have at least two seats for its nominees on the Managing Committee or the Governing Body of non-university institutions and the All India Council for Technical Education shall also have two seats thereon. In the case of Institutions or Departments administered by a University direct, the Central Government and the All India Council for Technical Education shall have the right to nominate one member each on the Advisory Committee or the Committee of Management.

(xii) The number of students to be admitted each year and the total strength of the student population of the College or Institution shall not exceed the number which may be fixed from time to time by the All India Council for Technical Education.

7. Spread of Grants.

The Committee expressed the view that the grants may be spread over a period of four years as indicated below.

(a) The entire amount of grant for buildings should be spread over three years ending in the financial year 1949-50.

(b) The grant for equipment may be spread over four years, i.e. up to the year 1950-51 in the following manner:-

5	per cent in the year	1947-48
15	"	1948-49
60	"	1949-50
20	"	1950-51

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(c) The recurring grant should be so arranged that in the fifth year, i.e. in the year 1951-52, the institution should be receiving the maximum grant recommended. This may be spread as follows :-

In the year 1947-48 - 20 per cent.
" 1948-49 40 "
" 1949-50 60 "
" 1950-51 80 "
" 1951-52 100 "

The above allocation is, however, purely tentative and may be changed so as to enable the institutions to recruit competent staff immediately wherever necessary.

8. Grants to University Institutions.

It was agreed that until the scope of the University Grants Committee is extended the Ministry of Education should be requested to take immediate action to see that grants recommended for the non-Central University Institutions are made immediately. There was, however, no objection to acquainting the University Grants Committee with the action which the Ministry of Education may take in respect of grant to the non-Central Universities. In case of Departments or constituent College of the Central Universities, it was appreciated that the Ministry of Education will be free to take such action as they may consider appropriate.

9. Annual Intakes.

The Committee then considered the Visiting Committees reports for each institution so as to fix the number of annual intakes and the financial assistance necessary for each institution.

I. College of Engineering, Benares Hindu University.

The number of annual admissions to the Engineering College should be limited to 160; 80 each in the Mechanical and Electrical Engineering Degree courses for the present, Later on the numbers may be changed to 60, 60 and 40 for Mechanical, Electrical and Civil Engineering Diploma Courses respectively when in the opinion of the Council the College has been sufficiently strengthened.

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II. College of Engineering and Technology, Jadavpur.

The annual admission to Degree courses should be limited to 200 (80 Mech. Engineering, 60 Electrical Engineering & 60 Chemical Engineering) and the grant should be made to the Institution on the distinct understanding that the Institution would either discontinue the junior courses and the agricultural courses or provide these courses in an entirely separate institution within a period of three years from the receipt of the first grant.

III. Victoria Jubilee Technical Institute:

It was agreed that the Institution should have 20 additional seats for the combined Mechanical & Electrical Degree courses and 10 additional seats for the Textile Manufacturing Degree course. Civil Engineering Degree course should also be introduced with an annual intake of 50 students and a Chemical Engineering Degree course for 20 students in collaboration with the Bombay University Chemical Technology Department.

IV. College of Mining & Metallurgy, Benares Hindu University:

The Committee was of the view that annual admission to this College should be as follows:-

Mining -16
Metallurgy -32

The Committee also expressed the opinion that since the production of synethetic fuel and the maximum utilization of natural fuel were of supreme importance, the Government of India should take steps to set up a Government institution under their own control for the training of fuel technologists rather than leave this important branch of study to be tackled by non-government institutions.

V. College of Technology, Benares Hindu University.

The Committee was not in favour of recommending any financial assistance for the Ceramics and the Glass Technology Department of this institution. They agreed that the Pharmaceutics and the Industrial Chemistry Departments of this institution should be strengthened and that the annual intakes to these

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courses should, for the time being, be limited to 22 and 30 respectively.

VI. Department of Chemical Technology, University of Bombay.

The Committee agreed that provision should be made for the following additional seats:

Textile Chemistry	-	18
Plastics, Paints & Varnishes.	-	9
Oils, Fats & Soaps	-	8
Research students altogether		20

In addition to the above 20 students should be admitted each year to the Chemical Engineering Degree course, the course to be run in collaboration with the Victoria Jubilee Technical Institute.

VII. Lakshminarayan Institute of Technology, Nagpur.

The Committee agreed that the annual intake to the B.Sc.(Tech) course and for research should be 72 and 12 respectively. The Committee, however, wished it to be conveyed to the Institution that, in their opinion, frequent changes in the senior staff as seem to be taking place in this institution cannot be conducive to the proper growth of the Institution.

VIII. Department of Applied Chemistry, Calcutta University.

The Committee agreed that the annual intake of students to the M.Sc. course should be 36, to the Soap-Diploma course 10 and the number of research students should be increased to 50. They were in favour of introduction of new sections of Plastics and of Chemical Engineering.

IX. Department of Applied Physics, Calcutta University.

The Committee suggested the splitting up of this Department into two departments, namely, the Department of Applied Applied Physics and a new Department of Radio Physics and Electronics. The Committee agreed that the annual admission to M.Sc. course should be limited to 40 and that there should be provision for 16 research students. The Committee were of the opinion that the capital grant to the AppliedPhysics

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Department should be limited to 2.15 lakhs and the recurring grant to 0.5 lakhs.

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For the new Department of Radio Physics and Electronics, the annual intake to M.Sc. courses should be 20 and there should be 8 research students. The Committee are of the opinion that capital grant for this new Department should amount to 5.47 lakhs and the recurring grant to 0.792 lakhs.

X. Jaipur Vikram Deo College of Science and Technology, Andhra University.

The Committee were not in favour of giving any grant to the Department of Chemistry and they agreed with the Visiting Committee that the Department of Chemical Technology should be split into two departments, namely, the Department of Chemical Technology and the Department of Pharmacy and that grants should be made for the strengthening of these two departments. The Committee agreed that the annual intake of the Chemical Technology Department should be 21 and that of the Pharmaceutics Department 18 and the latter should have at least three research students.

XI. Allagapa Chettiar College of Technology, Madras University.

The Committee agreed with the view expressed by Sir J.C. Ghosh that the annual admission to this Department should be 30 per year and that the Institution should be given a capital grant of Rs. 5 lakhs for buildings and equipment and a recurring grant of Rs. 60,000 per year. The Committee was not in favour of giving any grant to the Leather Technology Department which is receiving an annual grant of Rs. 50,000 from the Council of Scientific and Industrial Research. The Committee was also not in favour of giving any capital grant to the Textile Technology Department since the Department forms a part of the Government Textile Institute, but recommended that to enable the University to appoint professors and other necessary staff an annual recurring grant of Rs. 40,000 should be made to this Department.

XII. College of Engineering, Muslim University, Aligarh.

The Committee noted with regret that this Engineering College although forming a part of a Central University, was

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very poorly equipped in the matter of staff and equipment and desired that the Ministry of Education's attention should be drawn to the unfavourable comments made by the Visiting Committee. The Committee was definitely of the view that for the next four or five years or until the Institution has been properly developed, the admission to this College should be strictly limited to 90 students, 30 in Civil Engineering, 30 in Mechanical Engineering and 30 in Electrical Engineering. The University authorities must secure priviate benefactions to the extent of a third of the estimated capital and recurring cost as calculated before the Central Government makes any further grant to this institution.

XIII. Engineering College, Annamalai University:

Here again the Committee was definitely of the view that the annual admission to the institution should be strictly limited to 60 students, 30 in Civil Engineering, 15 in Mechanical Engg. and 15 in Electrical Engineering for the next five years and that the University must secure benefaction to the value of a third of the recurring and the capital cost involved to bring the Institution to a proper footing before the Central Government makes any grant to this Collegel

XIV. Dayalbagh Technical College, Agra:

The Committee agreed that the annual admission to the degree course should be limited to 60 students (30 Mechl. 30 Electrical Engineering). The authorities of this institution must secure private benefactions to the extent of a third of the estimated capital and recurring cost as calculated before the Central Government makes any grant to this institution.

10. A summary of the foregoing recommendations in respect of capital and recurring grants for each institution together with detailed calculations will be found in Annexure 'I'.

A statement of the total financial implications of the recommendations made by the Scrutinising Committee is given in Annexure 'II'.

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*Sood 100 CPS 5/12/47 DHL'.

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Annexure II.

Summary of Recommendations.

Sl. No.	Institution.	Capital grant in lakhs of Rupees		Recurring grant in lakhs	Interest free loan for hostel
		Building	Equipment		
I	Engineering College Benares Hindu University.	3.12	16.87	5.12	3.90
II	Jadavpur Engineering College.	3.38	26.00	6.43	13.01
III	Victoria Jubilee Technical Institute, Bombay.	7.60	9.87	1.52	4.33
IV	College of Mining and Metallurgy, Benares Hindu University.	3.11	6.85	1.53	3.17
V	College of Technology Benares Hindu University.	1.30	4.20	2.08	3.08
VI	Dept- of Chemical Technology, Bombay University.	3.34	3.06	1.07	3.24
VII	Luxminarayan Technical Institute, Nagpur.	1.51	1.70	1.75	1.39
VIII	Dept. of Applied Chemistry, Calcutta University.	4.52	2.81	2.13	3.00
IX	Dept. of Applied Physics and Radio & Electronics, Calcutta University.	5.25	2.38	1.29	
X	Jaipur Vikram Deo College, Andhra University.	2.29	2.27	0.70	
XI	Alagappa Chettiar College, Madras.	2.50	2.50	0.60 0.40	
	Total for I to XI	37.92	78.51	24.62	35.78
XII	Engg. College Aligarh	2.14	12.15	2.13	3.96
XIII	Engg. College Annamalai	3.33	7.33	1.28	2.64
XIV	Dayalbagh Technical College	3.00	7.07	1.28	2.00
	Total for XII to XIV	8.47	26.55	4.69	8.60
	GRAND TOTAL	46.39	105.06	29.31	44.38

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(P)

APPENDIX III

COLLEGE OF ENGINEERING BENARES HINDU UNIVERSITY

(1)

Courses:	Degree Courses in Mech. Electrical and Civil Engineering.
Proposed rate of Admission	160 students per year.
Duration of course	4 years.
Proposed student strength	640.
Existing accommodation in College Buildings:	1,03,000 ft.^{2}
Value of existing equipment.	Rs. 15.125 lakhs
Existing Hostel accommodation	For 400 students.
Present annual income apart from students tuition fees	Nil

Assessment of Capital grant.

a) College Buildings:

Total requirement @ 200 ft.^{2} per student= 200 x 640 = 1,28,000 ft.^{2}

Less existing accommodation " " " = 1,03,000 ft.^{2}

Shortage 25,000 ft.^{2}

Cost involved @ Rs.12/8/- per ft.^{2} = Rs.12.5 x 25.000= Rs.3.125 lakhs

b) Equipment:

Total requirement @ Rs.5,000/- per student = 640 x 5,000
= 32 lakhs

Less value of existing equipment = 15.125 lakhs

Shortage = 16.875 lakhs

Total capital grant required:

Buildings = Rs. 3.125 lakhs
Equipment = Rs.16.875 lakhs

Total = Rs.20.0 lakhs.

Assessment of Recurring grant.

@ Rs. 1000/- per student, being cost of education, annual recurring expenditure amounting to - 640 x 1000= Rs.6.40 lacs

Less income from tuition fees @ Rs. 200/- = 200 x 640 = Rs.1.28 lacs

Ultimate Recurring grant required. = Rs.5.12 lacs.

P.T.O.

Loan for Construction of students Hostel.

Additional accommodation is required for 240 students (640-400)

@ 150 ft² per seat total additional floor area required = 150 x 240 = 36,000 ft².

@ Rs. 10/- per ft² cost of construction amounts to (36000 x 10) i.e. Rs. 3.6 lakhs

@ Rs.15 per seat on account of furniture and fittings, cost involved amounts to 150 x 240 i.e. Rs.0.36 lakhs.

Total loan required -

Building	- Rs. 3.6 lakhs
Furniture	- Rs. 0.36 lakhs
Total	- Rs. 3.96 lakhs.

Recommendations of the Co-ordinating Committee.

Capital grant college Building = Rs. 3.12 lakhs

Equipment = Rs.16.87 lakhs

Recurring grants .....= Rs. 5.12 lakhs

Loan for construction of Hostel= Rs. 3.96 lakhs

Spread of grants

	In Lakhs of Rupees					
Capital grant.	'47-48.	'48-49.	'49-50.	'50-51.	'51-52.	Total
College Building	.6249	1.2489	1.2480	..	..	3.1200
Equipment	.8435	2.5305	10.1220	3.3740	..	16.8700
Recurring grant.	1.0249	2.0489	3.0720	4.0360	5.1200	
TOTAL:	2.4915	5.8265	14.4420	7.4700	5.12	
Loan:	.792	1.584	1.584	..	..	3.960

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II. College of Engineering & Technology, Jadavpur, Bengal.

Present courses of study (to be strengthened)	- Degrees in Mechanical, Electrical and Chemical Engineering.
Duration of course	- 4 years.
Proposed annual intake	- 80 in Mechanical, 60 in Electrical and 60 in Chemical Engineering i.e. 200 students per year.
Proposed student body	- 800

Existing accommodation 1,37,500 sq. ft. approximately in the College.

Buildings:-

Present-day value of existing equipment	- Rs. 14 lakhs approximately
Existing Hostel accommodation	- 100 students
Present annual income apart from tuition fees	- Rs. 40,000/- from the Bengal Government.

Assessment.

Capital Grant.

(a) College Buildings

Total requirements @ 200 sq. ft. per student - 200 x 800 = 1,60,000 sq. ft.

Less existing accommodation. ... = 1,37,500 sq. ft.

Shortage = 22,500 sq. ft.

Construction cost involved @ Rs. 15/- per sq. ft. = 15/- x 22,500 = Rs. 3.375 lakhs.

(b) Equipment

Total requirement @ Rs. 5,000/- per student; i.e. 5,000/- x 800 = Rs.40.00 lakhs

Less value of existing equipment = Rs.14.00 lakhs

Shortage = Rs.26.00 lakhs

Total capital grant assessed= 3.375 + 26.00 = Rs.29.375 lakhs.

Recommended by Co-ordinating Committee

Building:-	Rs. 5.38 lakhs
Equipment:-	Rs. 24.00 lakhs
Total:-	Rs. 29.38 lakhs

Recurring Grant.

For Chemical Engineering @ Rs.1,200/- per student for (60 x 4) = 240 students ... Rs. 2.88 lakhs

For Mechanical & Electrical Engineering @ Rs. 1,000/- per student for (80 + 60)x 4 i.e. 560 students .... Rs. 5.60 lakhs

Total annual expenditure .. Rs. 8.48 lakhs

Less: Income from tuition fee @ Rs.200 per student for 800 students Rs. 1.60 lakhs

Grant from Bengal Government Rs. 0.40 lakhs

Rs. 2.00 lakhs

Ultimate recurring grant required .. Rs. 6.48 lakhs

Ultimate recurring grant recommended.. Rs. 6.48 lakhs

Interest-free loan for construction of Hostel.

Additional accommodation required for (800 - 100) i.e. 700 students @ 150 sq. ft. per seat .... .. 1,05,000 sq. ft.

@ Rs. 12/8/- per sq. ft. cost of construction involved Rs.. 13.125 lakhs

@ Rs. 150/- per hostel seat, cost of furniture and fittings, i.e. 700 x 150 Rs.. 1.05 lakhs

Total Rs. 14.175 lakhs

Recommended by Co-ordinating Committee

Interest free loan of Rs. 14.175 lakhs

Spread of grants and loan.

Items	In lakhs of Rupees. '47-48	'48-49	'49-50	'50-51	'51-52	Total
Non-recurring Capital Grant.						
(a) College Buildings	1.08	2.15	2.15	-	-	5.38
(b) Equipment	1.20	3.60	14.40	4.80	..	24.00
Recurring Grant	1.296	2.592	3.888	5.184	6.48	-
Interest-free loan repayable in 33 years by equal annual instalments.	2.835	5.67	5.67	-	-	14.175

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III. VICTORIA JUBILEE TECHNICAL INSTITUTE, BOMBAY.

Courses of study proposed to be introduced and/or strengthened. - Degree courses in Mechanical and Electrical Engineering, Textile Manufacturers, Civil Engineering and Chemical Engineering (in collaboration with the Chemical Technical Department of Bombay University).

Duration of all courses - 4 years

Proposed rate of admission - Degree courses in combined Mechanical and Electrical Engineering .. 60 students

Degree in Textile Manufacture 20 students

Degree in Civil Engineering 50 students

Degree in Chemical Engineering (with Bombay University) 9 students

Total: 139 students.

NOTE:- It is recommended that in the Chemical Engineering degree course, the Bombay University will be reckoned to cater for 55% of the students and the V.J.T.I. will cater for 45%.

Proposed student strength - 139 x 4 = 556

Existing accommodation in College Buildings. - 60,500 sq. ft. is available for degree courses, the balance is left for use of the Diploma courses.

Present day value of Existing equipment - Rs.17.93 lakhs for degree courses.

Existing hostel accommodation. - For 342 students only.

Present annual income apart from student fees - Bombay Govt. grant from 1944 onwards Rs. 1.7 lakhs

Additional Bombay Govt. grant for Mech. & Elect. degree courses Rs. 0.53 lakhs

P.T.O.

Additional Bombay Govt. grant for Textile Degree courses	Rs. 0.53 lakhs
Grant from local Bodies	Rs. 0.075 lakhs
Grant from Mill-owner's Association	Rs. 0.089 lakhs
Total:	Rs. 2.924 lakhs

Assessment.

Capital Grant:-

(a) College Buildings:-

Total requirement @ 200 sq. ft. per student for 556 students ... 1,11,200 sq. ft.

Less existing accommodation ... 60,500 sq. ft.

Shortage .. 50,700 sq. ft.

Cost of construction involved @ Rs.15/- per sq. ft. ... Rs. 7.605 lakhs

(b) Equipment.

Total requirement @ Rs. 5000/- per student for 556 students ... Rs.27.80 lakhs

Less value of existing equipment. Rs.17.93 lakhs

Shortage Rs. 9.87 lakhs

Recommendation of the Coordinating Committee.

Capital grant for college Buildings. Rs. 7.60 lakhs

Capital grant for Equipment Rs. 9.87 lakhs

Recurring grant.

Recurring expenditure @ Rs.1000/- per student on 520 (130 x 4) students of the Civil, Mechanical and Electrical Engineering and Textile Manufacture, degree courses. Rs. 5.20 lakhs

Recurring expenditure @ Rs.1200/- per student on 36 (9 x 4) students of the Chemical Engineering Degree course Rs. 0.432 lakhs

Total Rs. 5.632 lakhs

Less Income from students fees @ Rs. 200/- per student of 556 students ... Rs. 1.112 lakhs

Grants from Bombay Govt. & others for degree courses Rs.2.940 lakhs

Total Rs. 3.552 lakhs Rs. 3.552 lakhs

Ultimate recurring grant required=Rs. 2.080 lakhs

P.T.O.

Recommendation of the Coordinating Committee.

Ultimate recurring grant of Rs. 2.08 lakhs.

Interest-free loan for construction of hostels.

Additional accommodation required for 214 (556-342) students @ 150 sq. ft. per seat .. 150 x 214	.. 32,100 sq. ft.
@ Rs. 12/8/- per sq. ft. cost of construction involved.	.. Rs. 4.0125 lakhs
@ Rs. 150/- per seat, cost of furniture and fittings.	.. Rs. 0.321 lakhs
Total:-	Rs. 4.3335 lakhs

Recommendation of the Coordinating Committee.

Interest-free loan repayable in 33 years by equal annual instalments. ... Rs. 4.34 lakhs

Spread of Grants and Loan.

Item	In lakhs of Rupees '47-48	'48-49	'49-50	'50-51	'51-52	Total
Non-recurring Capital grant						
(a) College Buildings	1.52	3.04	3.04		-	7.600
(b) Equipment	.4935	1.4805	5.9220	1.974	-	9.870
Recurring Grant.	0.416	0.832	1.248	1.664	2.08	
Interest free loan repayable in 33 years by equal instal-ments.	.868	1,736	1.736	-	-	4.340

IV

BENARES HINDU UNIVERSITY
COLLEGE OF MINING AND METALLURGY.

Courses	Degree courses in Mining and Metallurgy.
Proposed rate of admission	48 (16+32) students per year.
Duration of the Course.	4 years.
Proposed student strength	192
Existing accommodation in College Buildings.	13,500 sq. ft.
Value of existing equipment:	2.75 lakhs.
Existing Hostel Accommodation.	None.
Present annual income apart from students tuition fees.	Nil.

Assessment of capital grant.

a) College Building:

Total requirement @ 200 ft per student= 200x192 = 38,400 ft^2

Less existing accommodation. = 13,500 ft^2

Shortage. = 24,900 ft^2

Cost involved @ Rs.12/8/- per ft^2 = 12.5 x 24,900= 3.115 lakhs

b) Equipment.

Total requirement @ Rs. 5000/- per student = 192 x 5000
= Rs. 9.60 lakhs

Less value of existing equipment = Rs. 2.75 lakhs

Shortage = Rs. 6.85 lakhs

Total capital grant required.

Building	= Rs. 3.115 lakhs
Equipment	= Rs. 6.850 lakhs
Total	= Rs. 9.965 lakhs.

Assessment of Recurring grant.

@ Rs. 1000 per student, being cost of education, annual recurring expenditure amounting to 192 x 1000 = Rs. 1.92 lakhs.

Less income from tuition fees @ Rs. 200 = 200 x 192 = Rs. 0.384 lakhs

Ultimate recurring grant required. Rs. 1,536 lakhs.

Loan for construction of students Hostel.

Accommodation is required for 192 students

@ 150 ft^2 per seat, total additional floor area required = 150 x 192 = 28,800 ft^2

@ Rs. 10 per ft^2 cost of construction amounts to (28,800 x 10) i.e. Rs. 2.88 lakhs.

@ Rs. 150 per seat on account of furniture and fittings, cost involved amounts to 150 x 192 i.e. Rs. 0.2880 lakhs.

P.T.O.

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Total loan required.

Building	Rs. 2.88 lakhs
Furniture & Fittings	Rs. 0.288 lakhs
Total:	Rs. 3.168 lakhs

Recommendation of the Co-ordinating Committee:

Capital grant -

College Building.	Rs. 3.11 lakhs
Equipment	Rs. 6.85 lakhs
Recurring grant	Rs. 1.53 lakhs
Loan for construction of Hostel.	Rs. 3.17 lakhs

Spread of grants and loan.

	In Lakhs of Rupees.					
Capital Grant	'47-48	'48-49	'49-50	'50-51	'51-52	Total
College Building	0.622	1.244	1.244	-	-	3.11
Equipment	0.3425	1.0275	4.1100	1.3700	-	6.85
Recurring grant	0.306	0.612	0.918	1.224	1.530	
Total:	1.2705	2.8835	6.2720	2.594	1.53	
Loan:	0.634	1.268	1.268	-	-	3.17

V

BENARES HINDU UNIVERSITY
COLLEGE OF TECHNOLOGY.

Courses to be strengthened.	Degree course in Pharmaceutics and Industrial Chemistry.
Proposed rate of admission.	52 students per year i.e. 22 for Pharmaceutics and 30 for Industrial Chemistry.
Duration of Course	4 years.
Proposed student strength	208
Existing accommodation in College Buildings.	31,200 ft^2 in the above two courses.
Value of existing equipment.	6.20 lakhs approximately.
Existing Hostel Accommodation	For 76 students of the above two courses.
Present annual income apart from students tuition fees.	Nil.

Assessment of capital grant.

a) College Building:

Total requirement @ 200 ft. per student
= 200 x 208 = 41, 600 ft^2
Less existing accommodation=31,200 ft^2

Shortage = 10,400 ft^2

Cost involved @ Rs. 12/8/- per ft^2 = 12.5 x 10,400 = Rs. 1.30 lakhs.

b) Equipment.

Total requirement @ Rs. 5000/- per student
= 208 x 5000 = Rs. 10.40 lakhs.

Less value of existing equipment = Rs. 6.20 lakhs

Shortage. = Rs. 4.20 lakhs

Total capital grant required:

Buildings = Rs. 1.30 lakhs.
Equipment = Rs. 4.20 lakhs.

Total. = Rs. 5.50 lakhs.

Assessment of Recurring grant.

@ Rs. 1200/- per student, being cost of education, annual recurring expenditure amounting to 208 x 1200 = Rs.2.496 lakhs.

Less income from tuition fees @ Rs. 200 = 200 x 208 = Rs.0.416 lakhs.

Ultimate Recurring grant required. = Rs.2.08 lakhs.

Loan for construction of students Hostel.

Additional accommodation is required for 132 student (208-76) @ 150 ft^2 per seat, total additional floor area required =
150 x 132 = 19.800 sq. ft.
@ Rs. 10 per ft^2 cost of construction amounts to
(19,800 x 10) i.e. Rs. 1.98 lakhs.

P.T.O.

133

@ Rs. 150 per seat on account of furniture and fittings, cost involved amounts to 150 x 132 i.e. Rs. 0.198 lakhs.

Total loan required =

Building	= Rs. 1.98 lakhs
Furniture & Fittings	= Rs. 0.198 lakhs
TOTAL:	Rs. 2.178 lakhs

Recommendations of the Co-ordinating Committee:

Capital grant.

College Buildings	= Rs. 1.30 lakhs.
Equipment.	= Rs. 4.20 lakhs.
Recurring grant	= Rs. 2.08 lakhs
Loan for construction of Hostel.	= Rs. 2.18 lakhs.

Spread of grants.

In Lakhs of Rupees

	'47-48	'48-49	'49-50	'50-51	'51-52	Total
Capital grant:						
College Building.	.260	.520	.520	..	..	1.300
Equipment	.210	0.630	2.520	.840	..	4.200
Recurring Grant.	.416	0.832	1.248	1.664	2.08	..
Total:	.886	1.982	4.288	2.504	2.08	
Loan:	.436	.872	.872	..	..	2.180

VI. DEPARTMENT OF CHEMICAL TECHNOLOGY, BOMBAY UNIVERSITY.

Courses to be strengthened: Degree courses in Chemical Technology and Chemical Engineering (in collaboration with the Victoria Jubilee Technical Institution, Bombay) and Research.

Proposed rate of Admission - 115 students per year and 20 Research students at any one time.

Duration of course - 2 years after B.Sc. for B.Sc. (Tech.)

Proposed student strength - 230 and 20 Research workers.

Value of existing equipment - Rs. 8.80 lakhs.

Assessment of capital grant:-

(a) College Building:

Additional Building required for instructional purposes as recommended by the Visiting Committee which is @ 300 sq. ft. per student approximately. = 16,700 sq. ft.

Cost involved @ Rs. 15/- per sq. ft. - 15 x 16,700 = Rs. 2,50,500/-

Cost of furniture and fittings @ Rs. 5/- per sq. ft. required for post-graduate and research institutions - 5 x 16,700 = Rs. 83,500/-

Total: Rs. 3,34,000/-

(b) Equipment:

Total additional requirement as recommended by the Visiting Committee:-

Chemical Engineering Laboratories = Rs. 1.15 lakhs
Other Laboratories. = Rs. 1.915 lakhs
Total :- Rs. 3.065 lakhs

Total Capital grant required:

Buildings = Rs. 3.34 lakhs
Equipment = Rs. 3.065 lakhs

Total:- Rs. 6.405 lakhs.

Assessment of Recurring grant.

As recommended by the Visiting Committee = Rs. 1.072 lakhs.

Loan for construction of students Hostel.

Additional accommodation is required for 160 students as per Visiting Committees recommendations:-

@ 150 sq. ft. per seat, total additional floor area required = 150 x 160 = 24,000 sq. ft.

P.T.O.

@ Rs. 12/8/- per sq. ft. cost of construction amounts to = 24,000 x 12/8/- = Rs. 3.0 lakhs

@ Rs.150/- per seat on account of furniture and fittings, cost involved amounts to = 150 x 160 = Rs. 0.24 lakhs

Total loan required:

Building	-	Rs. 3.00 lakhs
Furniture & fittings.	-	Rs. 0.24 lakhs
TOTAL:		Rs. 3.24 lakhs

Recommendations of the Coordinating Committee.

Capital grant:-

College Buildings ..... Rs. 3.34 lakhs
Equipment..... Rs. 3.06 lakhs

Ultimate recurring grant..... Rs. 1.07 lakhs

Loan for construction of Hostel..... Rs. 3.24 lakhs.

Spread of Grants and Loan.

In Lakhs of Rupees.

	1947-48	48-49	49-50	50-51	51-52	Total
Capital Grant:-						
College Building.	0.668	1.336	1.336	--	--	3.340
Equipment	0.153	0.459	1.836	.612	--	3.060
Recurring Grant.	0.214	0.428	0.642	0.856	1.070	--
Total:	1.035	2.223	3.814	1.468	1.07	--
Loan:	.648	1.296	1.296	--	--	3.240

VII. LAXMINARAYAN INSTITUTE OF TECHNOLOGY, NAGPUR.

Courses.	Degree Courses in Chemical Technology and Chemical Engineering and research.
Proposed rate of admission.	40 students per year.
Duration of course	4 years
Proposed student strength.	160 and 12research students.
Existing accommodation in College Buildings.	19,000 ft^2
Value of existing equipment	Rs. 7.10 lakhs including Rs.5.00 already ordered.
Present annual income apart from students tuition fees.	Rs. 1.25 lakhs.

Assessment of capital grant.

a) College Buildings:

Total requirement @ 300 ft per student
= 300 x 172 = 51,600 ft^2

Less existing accommodation = 19,000 ft^2
Shortage = 32,600 ft^2
Cost involved @ Rs. 12/8/- per ft. = 12.5 x 32,600 = Rs.4.075 lakhs.

Cost of furniture & fitting @ Rs.5/- per ft^2 for postgraduate and research institutions ..... = Rs.1.63 lakhs

Rs.5.705 lakhs

b) Equipment.

Total requirement @ Rs.5000/- per student= 172 x 5000 = Rs.8.60 lakhs.

Less value of existing equipment = Rs.7.10 lakhs.

Shortage Rs.1.50 lakhs

Total Capital grant required:

Building = Rs.5.705 lakhs
Equipment = Rs.1.5 lakhs

TOTAL: = Rs.7.205 lakhs.

Assessment of Recurring grant.

@ Rs.1200/- per student, total annual recurring expenditure = Rs. 2.064 lakhs

Less: Income from tuition fees @ Rs.200 = 200 x 172 = Rs. 34,400
and income from Endowment Fund = Rs. 1,25,000

Total: Rs. 1,59,400 = 1.594 lakhs.

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VIII. & IX. UNIVERSITY COLLEGE OF SCIENCE AND TECHNOLOGY, CALCUTTA UNIVERSITY, DEPARTMENT OF CHEMISTRY.

-.-.-.-.-.

Courses:	Post-graduate degree courses and research in Chemistry.
Proposed rate of admission.	36 students in M.Sc. course and 20 students in Soap Diploma Course each year and 50 research students at any one time.
Duration of Course.	2 years (M.Sc.), 1 year diploma.
Proposed student strength	92 students and 50 research students, i.e. a total of 142.
Existing accommodation in College Buildings.	20,000 sq. ft.
Value of existing equipment.	5.00 lakhs.
Existing Hostel accommodation.	Nil
Present annual income apart from students tuition fees.	Rs. 21,829 (from Endowment funds)

Assessment of capital grant.

a) College Building:-

Total requirement @ 300 sq. ft. per student. ... ... = 300 x 142
= 42,600 sq. ft.

Less existing accommodation = 20,000 sq. ft.

Shortage = 22,600 sq. ft.

Cost involved @ Rs.15/- per sq. ft. = Rs. 15 x 22,600 =
Rs. 3,39,000

Cost of furniture and fittings @ Rs. 5/- per sq. ft. for post-graduate courses and research facilities. = Rs. 1,13,000

Total: Rs. 4.52 lakhs.

Equipment.

Total requirement for post-graduate courses and research work @ Rs.5,500/- per student = 142 x 5500 = Rs. 7.81 lakhs

Less value of existing equipment = Rs. 5.00 lakhs

Shortage = Rs. 2.81 lakhs

Total capital grant required:

Buildings	Rs. 4.52 lakhs
Equipment	Rs. 2.81 lakhs
Total:	Rs. 7.33 lakhs.

P.T.O.

Ultimate Recurring grant required ..... Rs.0.47 lakhs

Loan for construction of students Hostel.

Additional accommodation is required for 84 students as recommended by the Visiting Committee @ 150 sq. ft. per seat, total additional floor area required = 150 x 84 = 12,600 sq. ft.

@ Rs.10/- per sq. ft. cost of construction amounts to (12,600 x 10) i.e. Rs. 1.26 lakhs.

@ Rs.150/- per seat on account of furniture and fittings, cost involved amounts to 150 x 84 i.e., Rs.0.126 lakhs.

Total loan required:

Buildings	Rs. 1.26 lakhs
Furniture & Fittings	Rs. 0.126 lakhs
TOTAL:	Rs. 1.386 lakhs.

Capital grant:-

College Building	Rs. 5.07 lakhs
Equipment	Rs. 1.5 lakhs
Recurring Grant	Rs. 0.47 lakhs.
Loan for construction of Hostel.	Rs. 1.39 lakhs.

Spread of Grants and Loan.

In Lakhs of Rupees.	1947-48	48-49	'49-50	'50-51	'51-52	Total
Capital Grant:						
College Building.	1.014	2.028	2.028	-	-	5.070
Equipment	.075	.225	0.900	.300	-	1.500
Recurring Grant	.094	0.188	0.282	0.376	0.470	--
Total:	1.183	2.441	3.210	0.676	0.470	
Loan:	.278	.556	.556	--	--	1.390

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Assessment of Recurring grant.

@ Rs. 1,200/- per student, being cost of education of post-graduate courses, annual recurring expenditure amounting to 142 x 1200 = Rs. 1.704 lakhs.

Less Income from tuition fees @ Rs. 200/- i.e. 200 x 142	= Rs. 28,400	
and income from endowment funds	= Rs. 21, 829	Rs. 0.50229 lakhs
Ultimate recurring grant required ..		Rs. 1.202 lakhs.

DEPARTMENT OF APPLIED PHYSICS.

The following amounts are assessed:-

Capital grant

Building	...	Rs. 1.88 lakhs
Equipment	...	Rs. 0.28 lakhs
Total:-		Rs. 2.16 lakhs

Recurring Grant.

Annual recurring grant Rs. 50,000

The rate of admission and the number of research workers are proposed to be increased by 100 %.

DEPARTMENT OF RADIO AND ELECTRONICS.

The following amounts are assessed.

Capital grant.

Building	..	Rs. 3.37 lakhs
Equipment	..	Rs. 2.10 lakhs
Total:-		Rs. 5.47 lakhs

Recurring Grant.

Annual recurring Rs. 79,000/-

Loan for construction of Student's hostel.

Loan for construction of hostel to accommodate 100 students .. Rs. 3.0 lakhs.

Recommendation of the Co-ordinating Committee.

	Capital Grant Buildings In Lakhs of Rupees	Equipment In Lakhs of Rupees	Recurring Grant. In lakhs of Rupees.
Dept. of Chemistry	4.52	2.81	1.002
Dpet. of Applied Physics	1.88	0.28	0.5
Dpet. of Radio & Electronics	3.37	2.10	0.79
Total:	9.77	5.19	2.492

Loan for students' hostel .. 3.00 lakhs.

P.T.O.

Spread of Grants and Loan.

	In lakhs of Rupees					
	'47-48	'48-49	'49-50	'50-51	'51-52	Total
Capital Grant.						
College Buildings.	1.9540	3.9080	3.9080	..	..	9.7700
Equipment.	.2595	0.7785	3.1140	1.0380	..	5.1900
Recurring Grant	.4984	0.9968	1.4952	1.9936	2.492	
Loan:	0.6	1.2	1.2	--	--	3.00

X. SEYPORE VIKRAM DEO COLLEGE OF SCIENCE & TECHNOLOGY.
ANDHRA UNIVERSITY.

Assessment.

Department of Pharmacy .. student body = 21

Capital grant.

(a) College Building:

Additional floor area required @ 300 sq. ft. per student for 21 students. .. 6,300 sq. ft.

@ Rs. 12/8/- per sq. ft. cost of construction involved. ..Rs.0.7875 lakhs

@ Rs.5/- per sq. ft. cost of furniture and fittings. ..Rs.0.315 lakhs

Total .. Rs.1.1025

(b) Equipment (including library) required as per Visiting Committee's recommendations .. U Rs.0.60 lakhs

Total:- Rs.1.7025 lakhs

Recurring grant.

Recommended by the Bisiting Committee Rs.0.352 lakhs

Department of Chemical Technology

student body = 84; Existing floor area 13,200 sq. ft.

Capital Grant.

(a) College Buildings.

Total floor area required for instructional purposes @ 300 sq. ft. per student for 84 students... .. 25,200 sq. ft.

Less existing floor area .. 13,200 sq. ft.

Shortage .. 12,000 sq. ft.

@ Rs. 12/8/- per sq. ft. cost of construction involved .. Rs. 1.50 lakhs

@ Rs. 5/- per sq. ft. for cost of furniture and fittings required in post-graduate and research institutions. ..Rs. 0.60 lakhs

Total: .. Rs. 2.10 lakhs

(b) Equipment (including library)

Recommended by the Visiting Committee .. Rs. 1.67 lakhs

Recurring Grant.

Recommended by the Visiting Committee .. Rs. 0.34936 Lakhs.

P.T. O.

Recommendations of the Co-ordinating Committee.

	Grants in Lakhs of rupees. Buildings	Equipment	Recurring
Department of Pharmacy	1.10	0.60	0.35
Department of Chemical Technology	2.10	1.67	0.35
Total:-	3.2	2.27	0.70

Spread of Grants.

	In Lakhs of Rupees. '47-48	'48-49	'49-50	'50-51	'51-52	Total
Capital Grant.						
College Building	0.6400	1.280	1.280	-	-	3.200
Equipment	0.1135	0.3405	1.3620	0.4540	-	2.2700
Recurring Grant	0.1400	0.2800	0.4200	0.5600	0.700	
Total:	0.8935	1.9005	3.0620	1.0140	0.700	

XI. ALAGAPPA CHETTIAR COLLEGE, MADRAS.

Recommendations of the Co-ordinating Committee.

Department of Chemical Technology.

Capital Grant.

Building	...	Rs. 2.50 lakhs
Equipment	...	Rs. 2.50 lakhs
Total:-		Rs. 5.00 lakhs
Recurring Grant	...	Rs. 0.60 lakhs

Department of Textile Technology.

Capital Grant	...	Nil
Recurring Grant	...	Rs. 0.40 lakhs

Total recurring grant to the College = 0.6 + 0.4
= Rs. 1 lakhs

Spread of grants.

Items.	In Lakhs of Rupees. '47-48	'48-49	'49-50	'50-51	'51-52	Total
Capital Grant						
College Building	0.50	1.00	1.00	-	-	2.50
Equipment	0.125	0.375	1.500	0.50	-	2.50
Recurring Grant.	0.20	0.40	0.60	0.80	1.00	
Total:-	0.825	1.775	3.100	1.30	1.00	

XIII

COLLEGE OF ENGINEERING, MUSLIM UNIVERSITY ALIGARH

Courses	Degree courses in Mech. Electrical and Civil Engineering.
Proposed rate of admission.	90 students per year i.e. 30 in each branch of Engineering.
Duration of Course.	4 years.
Proposed student strength	360
Existing Accommodation in College Buildings.	46,250 sq. ft.
Value of existing equipment.	Rs. 1.78 lakhs
Existing Hostel accommodation	Nil
Present annual income apart from students tuition fees.	Nil

Assessment of Capital grant.

a) College Building:

Total requirement @ 200 ft per student = 200 x 260 = 72,000 ft^2

Less existing accommodation = 46,250 ft^2

Shortage = 25,750 "

Cost involved @ Rs.12/8/- per ft^2 = 12.5 x 25,750 = 3.21875 lakhs

b) Equipment

Total requirement @ Rs.5000/- per student=360 x 5000= Rs.18.0 lakhs

Less value of existing equipment = Rs. 1,78 lakhs

Shortage = Rs.16.22 lakhs.

Total capital grant required:

Buildings	= Rs. 3.21875 lakhs
Equipment	= Rs. 16.22 lakhs
Total:	Rs. 19.43875 lakhs.

Assessment of recurring grant.

@ Rs. 1000 per student, being cost of education, annual recurring expenditure amounting to 360 x 1000 = Rs. 3.6 lakhs.
Less income from tuition fees @ Rs.200 = 200 x 360 = Rs. 0.72 lakhs

Ultimate recurring grant required = Rs. 2.88 lakhs.

Loan for construction of students Hostel.

Additional accommodation is required for 360 students.

P.T.O.

@ 150 ft^2 per seat, total additional floor area required = 150 x 360 = 54, 000 ft^2.

@ Rs. 10 per ft^2 cost of construction amounts to (54000 x 10) i.e. Rs. 5.4 lakhs.

@ Rs. 150/- per seat on account of furniture and fittings, cost involved amounts to 150 x 360 i.e. Rs.0.54 lakhs.

Total loan required:

Building ...	Rs. 5.4 lakhs
Furniture and Fittings.	Rs. 0.54 lakhs
Total:	Rs. 5.94 lakhs.

Total financial assistance required.

Capital -	
College Building	= Rs. 3.21875 lakhs.
Equipment	= Rs. 16.22 lakhs.
Recurring	= Rs. 2.88 lakhs.
Loan for construction of Hostel	= Rs.5.94 ;akhs

Recommendations of the Co-ordinating Committee.

Capital grant from Government:-

College Building	= Rs. 2.14 lakhs.
Equipment	= Rs. 10.813 lakhs.
Recurring grant from Govt	= Rs. 1.92 lakhs
Interest free loan	= Rs. 3.96 lakhs.

Spread of grants and Loans.

	In lakhs of rupees					
	1st year	2nd year	3rd year	4th year	5 year	Total
Capital Grant.						
College Building.	0.4280	0.8560	0.8560	-	-	2.1400
Equipment	0.54065	1.62195	6.48780	2.1626	-	10.813
Recurring Grant	.3840	0.768	1.1520	1.5360	1.9200	-
Total:	1.35265	3.24595	8.49580	3.6986	1.9200	
Loan:	.792	1.584	1.584	-	-	3.960

XIII. DEPARTMENT OF ENGINEERING & TECHNOLOGY
ANNAMALAI UNIVERSITY

Courses proposed to be strengthened - Degree courses in Mechanical Electrical and Civil Engineering.

Proposed rate of admission - 60 students per year, i.e. 30 in Civil and 15 each in Mechanical and Electrical Engineering respectively.

Duration of Courses - 4 years

Proposed strength of student Body - 240

Existing Accommodation in College Buildings - Nil

Present day value of existing equipment - Nil

Existing Hostel accommodation - Nil

Present annual income apart from students fees - Nil (A block grant of Rs. 2 lakhs has been made by the Madras Govt.

Assessment.

Capital expenditure.

(a) College Building.

Total requirement for 240 students @ 200 ft^2 per student = 200 x 240 = 48000 ft^2
Less existing accommodation = Nil

Shortage = 48,000 ft^2

@ Rs. 12/8/- per ft^2, cost of construction involved = Rs.6.00 lakhs

(b) Equipment

@ Rs.5000/- per student, total requirement for 240 students amounts to Rs. 12.00 lakhs
Less:- Value of existing equipment nil

Shortage= Rs.12.00 lakhs

Total requirement for capital expenditure

Building = Rs. 6.00 lakhs
Equipment= Rs.12.00 lakhs

Total:- Rs.18,00 lakhs
Less: Block grant=Rs. 2.00

Rs.16.00 lakhs

Recurring Expenditure.

@ Rs.1000/- per student, for 240 students total annual expenditure = Rs. 2.40 lakhs
Less: Annual Income from tuition fees @ Rs. 200 per student = Rs. 0.48 lakhs

Shortage = Rs. 1.92 lakhs.

P.T.O.

Hostels

Accommodation for 240 students @ 150 ft^2 per seat = 36,000 ft^2
@ Rs. 10/- per ft^2, cost of construction amounts to= Rs. 3.6 lakhs
@ Rs. 150/- per seat, cost of furniture & fittings = Rs. 0.36 lakhs

Total = Rs. 3.96 lakhs

Summary of total capital & recurring expenditure.

Capital expenditure:

Buildings & Equipment = Rs. 16.00 lakhs
Recurring expenditure = Rs. 1.92 lakhs
Hostel = Rs. 3.96 lakhs

Recommendations of the Coordinating Committee.

Capital Grant:

Building = Rs. 3.33 lakhs
Equipment = Rs. 7.33 lakhs
Ultimate Recurring Grant = Rs. 1.28 lakhs
Interest-free loan for construction of Hostels = Rs. 2.64 lakhs

Spread of Grants & Loan.

	In lakhs of Rupees					
	1st year	2nd year	3rd year	4th year	5th year	Total
Capital Grant						
Building:	0.666	1.332	1.332	-	-	3.330
Equipment	0.3665	1.0995	4.3980	1.4660	-	7.330
Recurring Grant	0.256	0.512	0.768	1.024	1.280	
Total:	1.2885	2.9435	6.4980	2.4900	1.280	
Loan:	0.528	1.056	1.056			2.64

XIV. Technical College, Dayalbagh, AGRA:

Courses	Degree courses in Mech. & Electrical Engg.
Proposed rate of Admission	60 students per year
Duration of Course	4 years
Proposed students' strength	240
Existing Accommodation in College Buildings.	12,000 ft.^{2}
Value of existing equipment.	Rs. 1.40 lakhs
Existing Hostel Accommodation	for 58 students.
Present annual income apart from students tuition fees.	Nil

Assessment of capital grant:

(a) College Building:

Total requirement @ 200 ft per students = 200 x 240 = 48,000 ft^2
Less existing accommodation = 12,000 ft^2
Shortage = 36,000 ft^2

Cost involved @ Rs.12/8/- per ft2 = 12.5 x 36,000 = Rs. 4.5 lakhs

(b) Equipment:

Total requirement @ Rs.5000/- per student= 240 x 5000 = Rs. 12 lakhs
Less value of existing equipment = Rs. 1.40 lakhs
Shortage = Rs. 10.60 lakhs

Total capital grant required:

Buildings = Rs. 4.50 lakhs
Equipment = Rs. 10.60 lakhs
Total = Rs. 15.10 lakhs

Assessment of Re-curring grant:

@ Rs. 1,000 per student, being cost of education, annual recurring expenditure amounting to 240 x 1000 = Rs. 2.4 lakhs
Less income from tuition fees @ Rs. 200 per student = 200 x 240 = Rs. 0.48 lakhs
Ultimate Recurring grant required = Rs. 1.92 lakhs.

Loan for construction of students Hostel.

Additional accommodation is required for 182 students (240-58) @ 150 ft^2 per seat. Total additional floor area required =150 x 182 = 27,300 ft^2
@ Rs. 10 per ft^2 cost of construction amounts to (27,300 x 10) i.e. Rs.2.73 lakhs
@ Rs. 150/- per seat cost of furniture and fittings amounts to (150 x 182) i.e. Rs. 0.273 lakhs
Total amount involved:-

Building	Rs. 2.73 lakhs
Furniture & fittings.	Rs. 0.273 lakhs
Total:	Rs. 3.003 lakhs.

P.T.O.

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Total financial assistance required.

Capital

College Building	= Rs.	4.50 lakhs
Equipment	= Rs.	10.60 lakhs
Recurring	= Rs.	1.92 lakhs
For construction of Hostel	= Rs.	3.003 lakhs

Recommendation of the Coordinating committee.

Capital grant from Central Government:

College Buildings	= Rs.	3.00 lakhs
Equipment	= Rs.	7.06 lakhs
Recurring Grant	= Rs.	1.28 lakhs
Interest free loan for construction of Hostels.	= Rs.	2.00 lakhs

Spread of grants & loan.

	In Lakhs of Rupees.					
	1st year	2nd year	3rd year	4th year	5th year	Total
Capital Grant.						
College Buildings.	.6000	1.2000	1.2000	-	-	3.000
Equipment.	.3530	1.0590	4.2360	1.4120	-	7.0600
Recurring Grant	.2560	0.5120	0.7680	1.024	1.2800	
Total:	1.2090	2.7710	6.2040	2.4360	1.28	
Loan:	.40	.80	.80	-	-	2.00

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STATEMENT OF GRANTS FOR THE FINANCIAL YEAR 1947-48.

	Name of Institution.	Non-recurring grant in lakhs of rupees. Building.	Equipment.	Recurring grant in lakhs.	Total.
I.	College of Engineering, Banaras Hindu University.	0.624	0.8435	1.0240	2.4915
II.	College of Engineering & Technology, Jadavpur, Bengal.	1.080	1.2000	1.2960	3.5760
III.	Victoria Jubilee Technical Institute, Bombay.	1.520	0.4935	0.4160	2.4295
IV.	College of Mining & Metallurgy, Banaras Hindu University.	0.622	0.3425	0.3060	1 2705
V.	College of Technology, Banaras Hindu University.	0.260	0.2100	0.4160	0.8860
VI.	Department of Chemical Technology, Bombay University.	0.668	0.1530	0.2140	1.0350
VII.	Laxminarayan Institute of Technology, Nagpur.	1.014	0.0750	.0940	1.1830
VIII.	Department of Applied Chemistry, College of Science & Technology University of Calcutta	1.954	0.2595	0.4984	2.7119
IX.	Department of Applied Physics, College of Science & Technology University of Calcutta.				
X.	Jaipur Vikeram Deo College of Science & Technology, Andhra University.	0.640	0.1135	0.1400	0.8935
XI.	Alagappa Chettiar, College of Technology, Madras University.	0.500	0.1250	0.2000	0.8250
	Total =	8.882	3.8155	4.6044	17.3019
XII.	College of Engineering & Technology, Muslim University, Aligarh.	0.4280	0.54065	0.3840	1.35265
XIII.	Dept. of Engineering and Technology, Annamalai University.	0.666	0.3665	0.256	1.2885
XIV.	Technical College, Dayalbagh, Agra.	0.6000	0.3530	0.2560	1.2090
	Total	1.6940	1.26015	0.8960	3.9015
	GRAND TOTAL =	10.5760	5.07565	5.5004	21.15205

STATEMENT OF GRANTS FOR THE FINANCIAL YEAR 1948-49.

Name of Institutions.	Non-recurring grant in lackhs of rupees. Building.	Equipment.	Recurring grant in lackhs.	Total.
I. College of Engineering, Banaras Hindu University.	1.248	2.5305	2.0480	5.8265
II. College of Engineering, & Technology, Jadavpur, Bengal.	2.150	3.6000	2.5920	8.3420
III. Victoria Jubilee Technical Institute, Bombay.	3.040	1.4805	0.8320	5.3525
IV. College of Mining & Metallur-gy, Banaras Hindu University.	1.244	1.0275	0.6120	2.8835
V. College of Technology, Banaras Hindu University.	0.520	0.8300	0.8320	1.982
VI. Department of Chemical Technology, Bombay University.	1.336	0.4590	0.4280	2.223
VII. Laxminarayan Institute of Technology, Nagpur.	2.028	0.2250	0.1880	2.441
VIII. Department of Applied Chemistry, College of Science & Technology, University of Calcutta.	3.908	0.7785	0.9968	5.6833
IX. Department of Applied Physics, College of Science & Technology, University of Calcutta.				
X. Jaipur Vikeram Deo College of Science & Technology, Andhra University.	1.280	0.3405	0.2800	1.9005
XI. Alagappa Chettiar College of Technology, Madras University.	1.000	0.3750	0.4000	1.775
Total =	17.754	11.4465	9.2088	38.4093
XII. College of Engineering & Technology, Muslim University, Aligarh.	0.8560	1.62195	0.768	3.24595
XIII. Dept. of Engineering & Technology, Anamalai University.	1.332	1.0995	0.512	2.9435
XIV. Technical College, Dayalbagh Agra.	1.2000	1.0590	0.5210	2.7710
Total =	3.3880	3.78045	1.7920	8.96045
Grand Total =	21.1420	15.22695	11.0008	47.36975

STATEMENT OF GRANTS FOR THE FINANCIAL YEAR 1949-50

Name of Institution.	Non-recurring grant in lakhs of rupees. Building.	Equipment.	Recurring grant in lakhs of Rs.	Total.
1. College of Engineering, Banaras Hindu University.	1.288	10.1220	3.0720	14.4420
2. College of Engineering & Technology, Jadavpur, Bengal.	2.150	14.40	3.8880	20.4380
3. Victoria Jubilee Technical Institute, Bombay.	3.040	5.9220	1.2480	10.210
4. College of Mining & Metallurgy, Banaras Hindu University.	1.244	4.1100	0.9180	6.2720
5. College of Technology, Banaras Hindu University.	0.520	2.520	1.2480	4.288
6. Department of Chemical Technology, Bombay University.	1.336	1.836	0.6420	3.814
7. Laxminarayan Institute of Technology, Nagpur.	2.028	0.900	0.2820	3.210
8. Department of Applied Chemistry, College of Science and Technology, University of Calcutta.	3.908	3.1140	1.4952	8.5172
9. Department of Applied Physics, College of Science & Technology, University of Calcutta				
10. Jaipur Vikeram Deo College of Science & Technology, Andhra University.	1.280	1.3620	0.4200	3.0620
11. Alagappa Chettiar College of Technology, Madras University.	1.00	1.500	0.6000	3.100
Total =	17.754	45.7860	13.8132	77.3532
12. College of Engineering & Technology, Muslim University, Aligarh.	0.8560	6.48780	1.1520	8.49580
13. Dept. of Engineering & Technology, Annamalai University.	1.332	4.3980	0.768	6.4980
14. Technical College, Dayalbagh, Agra.	1.200	4.2360	0.7680	6.2040
Total =	3.3880	15.12180	2.6880	21.19780
Grand total =	21.142	60.9078	16.5012	98.551

STATEMENT OF GRANTS FOR THE FINANCIAL YEAR 1950-51.

Name of Institutions.	Non-recurring grant in lakhs of rupees. Building.	Equipment.	Recurring grant in lakhs.	Total.
1. College of Engineering, Banaras Hindu University.	-	3.374	4.0960	7.4700
2. College of Engineering and Technology, Jadavpur, Bengal.	-	4.800	5.1860	9.9840
3. Victoria Jubilee Technical Institute, Bombay.	-	1.974	1.6640	3.6380
4. College of Mining and Metallurgy, Banaras Hindu University.	-	1.370	1.2240	2.5940
5. College of Technology, Banaras Hindu University.	-	0.840	1.6640	2.5040
6. Department of Chemical Technology, Bombay University.	-	0.612	0.8560	1.4680
7. Laxminarayan Institute of Technology, Nagpur.	-	0.300	0.3760	0.6760
8. Department of Applied Chemistry, College of Science & Technology, University of Calcutta)	-	1.0380	1.9936	3.0306
9. Department of Applied Physics, College of Science, & Technology, University of Calcutta)				
10. Jaipur Vikeram Deo College of Science & Technology, Andhra University.	-	0.454	0.5600	1.0140
11. Alagappa Chettiar College of Technology, Madras University.	-	0.500	0.8000	1.3000
Total	-	15.262	18.4176	33.6796
12. College of Engineering & Technology, Muslim University, Aligarh.	-	2.1626	1.5360	3.6986
13. Department of Engineering, & Technology, Annamalai University.	- -	1.4660	1.024	2.4900
14. Technical College, Dayalbagh, Agra.	-	1.4120	1.024	2.4360
Total	- -	5.0406	3.6840	8.6246
Grand Total =	-	20.3026	22.0016	42.3042

STATEMENT OF GRANTS FOR THE FINANCIAL YEAR 1951-52.

Name of Institution.	Non-recurring grant in lakhs of rupees. Building.	Equipment.	Recurring grant in lakhs of Rs.	Total.
1. College of Engineering, Banaras Hindu University.	-	-	5.12	5.12
2. College of Engineering & Technology, Jadavpur, Bengal.	-	-	6.48	6.48
3. Victoria Jubilee Technical Institute, Bombay.	-	-	2.08	2.08
4. College of Mining & Metallurgy Banaras Hindu University.	-	-	1.53	1.53
5. College of Technology Banaras Hindu University.	-	-	2.08	2.08
6. Department of Chemical Technology, Bombay University.	-	-	1.07	1.07
7. Laxminarayan Institute of Technology, Nagpur.	-	-	0.47	0.47
8. Department of Applied Chemistry, College of Science & Technology, University of Calcutta.	-	-	2.492	2.492
9. Department of Applied Physics, College of Science & Technology, Calcutta University.				
10. Jaipur Vikeram Deo College of Science & Technology, Andhra University.	-	-	0.70	0.70
11. Alagappa Chettiar College of Technology, Madras University.	-	-	1.00	1.00
Total :	-	-	23.022	23.022
12. College of Engineering & Technology, Muslim University, Aligarh.	-	-	1.9200	1.9200
13. Department of Engineering and Technology, Annamalai University.	-	-	1.280	1.280
14. Technical College, Dayalbagh, Agra.	-	-	1.280	1.280
Total =	-	-	4.4800	4.4800
Grand total -	-	-	27.5020	27.5020

STATEMENT OF LOANS TO BE GIVEN FOR CONSTRUCTION OF HOSTELS -

Name of Institution.	1947-48.	Financial year - 1948-49.	1949-50	Total.
		in lakhs of rupees.		
I. College of Engineering, Banaras Hindu University.	0.792	1.584	1.584	3.960
II. College of Engineering, & Technology, Jadavpur.	2.835	5.670	5.670	14.175
III. V.J.T.I., Bombay.	0.868	1.736	1.736	4.340
IV. College of Mining and Metallurgy, Banaras Hindu University.	0.634	1.268	1.268	3.170
V. College of Technology, Banaras Hindu University.	0.436	0.872	0.872	2.180
VI. Department of Chemical Technology, Bombay University.	0.648	1.296	1.296	3.240
VII. Luxminarayan Institute of Technology, Nagpur.	0.278	0.556	0.556	1.390
VIII. & IX. University College of Science & Technology, Calcutta University, & Department of Applied Chemistry and Applied Physics.	0.600	1.200	1.200	3.00
X. Jaipur Vikram Deo College of Technology, Andhra University.	-	-	-	-
XI. Alagappa Chettiar College of Technology, Madras.	-	-	-	-
Total =	7.091	14.182	14.182	35.455
XII. College of Engineering and Technology, Muslim University, Aligarh.	0.792	1.584	1.584	3.960
XIII. Department of Engineering and Technology, Annamalai University.	0.528	1.056	1.056	2.64
XIV. Technical College, Dayalbagh, Agra.	0.400	0.800	0.800	2.000
Total =	1.720	3.440	3.440	8.600
Grand Total =	8.811	17.622	17.622	44.055

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Annexure 4. Third Meeting.
Item No.4(a) of Agenda.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M E M O R A N D U M.

Establishment of Regional Committees of the All India Council for Technical Education.

At its second meeting held in Bangalore in May, 1947, the All India Council for Technical Education decided that the four regions into which it was proposed to divide India for the purpose of establishment of the Regional Committees of the Council should be re-demarcated in the light of geographic & economic conditions and the political changes which were then impending. It was further suggested that Labour should have two representatives on each Regional Committee and that all non-official members of the All India Council for Technical Education in their respective regions should be ex-officio members of the Regional Committees.

The views of the Council stated above were communicated to the Provincial & States Governments.

2. In a letter dated the 4th February 1948 (Annexure 5, item 4(b) of agenda) the Government of Bombay has suggested a somewhat different composition for the Regional Committees from that proposed by the Council. The two proposals are shown in the comparative statement below for the consideration of the Council.

COMPOSITION OF THE REGIONAL COMMITTEES.

1 As proposed by A.I.C.T.E.	2 As proposed by the Govt. of Bombay.
a) Chairman	a) As in column 1.
b) One representative of the Ministry of Education of the Central Government.	b) As in column 1.
c) Two representatives of each of the Provl. Govts. within the region, one of whom will be the representative of the Provl. Government on the A.I.C.T.E.	c) Three representatives of each Provl. Govt. within the region. In the event of integration of States within the region with the Provinces of that region, the States representatives may be suitably apportioned among the other Govts.

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d) Upto three representatives of the Indian States in the region. In the southern region the States representation will be limited to the three members of A.I.C.T.E. representing the States of Hyderabad (Deccan), Mysore & Travancore and in the Western region, the State of Baroda will have one representative & the other States not more than two.	d) As in column 1 but subject to the provision of (c) above.
e) Two representatives of Industry & Commerce.	e) As in column 1.
f) One representative each from the Universities within the region having technological faculties.	f)) As in column 1.
g) Two representatives of Labour	g))
h) Four members to represent the technical institutions within the region.	h) Three representatives of technical institutions. (All academic matters on All India basis will be considered by the Boards of Studies which will consist mainly of expert representatives and Committees to afford such representation).
i) Two representatives of the Institution of Engineers. j) One representative of the Indian Institute of Architects.	i) & j) No separate representation for the Institute of Engineers and the Institute of Architects. (Very probably the representatives from the Universities or the technical institutions will already contain members who may represent the interests referred to. Moreover, the Regional Committees are proposed to be authorised to co-opt specialists in particular cases).
k) All non-official members of the All India Council for Technical Education within the region.	k) Two members of A.I.C.T.E. to be nominated by the Chairman of the Co-ordinating Committee. (Many of the members in the earlier categories will also be members of A.I.C.T.E.).
l) If on any Regional Committee there be no specialists on any of the subjects for which the six Boards of Studies have been set up by the Council, then the Regional Committees will be authorised to co-opt such specialist or specialists.	l) As in column 1.

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3. The Government of United Provinces has suggested that there should be an Executive Committee of each Regional Committee to serve as an executive organ. This is also for consideration.

4. The Provincial and State Governments are generally agreeable to the performance of the following functions by the Regional Committees as resolved by the Council at its first meeting:-

i) To supervise the work of the technical institutions at running All-India Courses, and of Higher Technical Institutions which the Government of India may set up within the region.

ii) To appoint Boards of examiners, taking into consideration the recommendations of the Boards of Technical Studies concerned and to arrange for the proper conduct of examinations.

iii) To publish the results of the examinations.

iv) To send reports to the Co-ordinating Committee about the conduct of examinations periodically.

v) To make preliminary examination of any institution seeking recognition and to forward recommendations to the Co-ordinating Committee.

vi) To survey the facilities for Technical Education and to make recommendations thereon to the Co-ordinating Committee.

The Government of Orissa has suggested that the functions of the Regional Committees may also include the following:-

a) To make recommendations for co-ordinated improvement of higher technical education in the region.

b) To survey the needs of technologists and arrange for their training.

The Government of Bengal has suggested that the Regional Committees and the Provincial Technical Education Committees (if any) should cooperate in advising the Provincial Governments.

The Government of Banaras State has suggested that the Regional Committees should afford technical help and advice to Provinces and States desiring to set up technical institutions after such i cal survey as may be necessary.

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As the Regional Committees will perform in general the functions assigned to the All India Council for Technical Education, it is more or less implied that their duties include the additional functions suggested by the Governments of Orissa, Bengal and Banaras. It is however for consideration whether any or all of these be specifically included in the list of functions of the Regional Committees.

5. It has already been made clear to the Provincial and State Governments that the Council do not propose to entertain applications for running All India Courses from any institution, unless the request of such institutions has the support of the Provincial Government concerned and there is no intention whatsoever of encroaching on the rights and privileges of any statutory bodies who may be controlling the Provincial and non-University institutions.

6. As regards re-demaraction of the regions it is suggested that these may comprise the territories mentioned below:-

i) The Northern Region: Comprising East Punjab, Delhi, The United Provinces, Ajmer-Merwara, the Eastern Punjab and Rajputana States, and the States of Jammu and Kashmir when these have finally acceded to the Indian Union.

ii) The Southern Region: Comprising Madras and the States of Mysore, Travancore, Cochin and other Southern India States, and Hyderabad (Deccan) State if and when it accedes to the Indian Union.

iii) The Eastern Region: Comprising Assam, West Bengal, Bihar, Orissa, Tripura, Manipur, and other Eastern India States.

iv) The Western Region: Comprising Bombay, the Central Provinces and Berar, Baroda and Gwalior States and the other Western and Central India States.

7. The decision of the Council is sought on the above points namely (i) the composition of the Regional Committees, (ii) the function of the Committees, (iii) the demarcation of regions.

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Annexure 5. Third Meeting.
Item No.4(b) of Agenda.

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ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M_E_M_O_R_A_N_D_U_M.

The Government of Bombay in their letter No.7764-K, dated the 4th February 1948, have made certain suggestions regarding the composition of the Co-ordinating Committee and the proposed Regional Committees of the Council. Those relating to the Regional Committees have been incorporated in the note on Item 4(a) of the agenda (Annexure 4.)

Relevant extracts from the Bombay Government's letter are reproduced below for consideration of the Council.

Extracts from a letter No.7764-K, dated the 4th February 1948, from the Joint Secretary to the Government of Bombay, Education and Industries Department, to the Secretary to the Government of India, Ministry of Education, New Delhi.

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3. It is desirable that in the Co-ordinating Committee which is the Executive Committee of the All India Council for Technical Education more adequate representation may be afforded to the Governments concerned, including the Government of India. It is considered suitable that the Governmental representatives may be one half of the total number, the remaining seats being distributed among other interests.

24. As regards also the composition of the Regional Committees it would be desirable to have these committees more compact. As the All India Council for Technical Education is a large and representative body and can deliberate on an All India basis on general questions, it would be desirable to modify the proposed tentative composition of the Regional Committees on the lines indicated below.

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5. The representatives of each Provincial Governments may be three in place of two; and in the event of integration of the States within the Region with the provinces of that Region, the State's representative may be suitably apportioned among the other Governments.

6. Representatives of Technical Institutions - Three representatives would appear adequate. All academic matters on All India basis will be considered by the Boards of Studies which will consist mainly of expert representatives, and it does not appear necessary to enlarge the Regional Committees to afford such representation.

7. Representatives of Institute of Engineers and the Indian Institute of Architects - It is very probable that the representatives from the Universities or the Technical Institutions will already contain members who may represent the interests referred to; moreover, the Regional Committees are proposed to be authorised to co-opt specialists in particular cases.

8. Representatives of the All India Council for Technical Education - Here again many of the members in the earlier categories will also be members of the All India Council for Technical Education. It would therefore be sufficient to provide for two additional members of the All India Council for Technical Education for nomination by the Chairman of the Co-ordinating Committee.

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ANNEXURE 6.
ITEM NO.5 OF AGENDA. THIRD MEETING.

(46)

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

Action taken by the Government of India on the recommendations of the All India Council for Technical Education made at its second meeting.

1. Membership of the Council.

The Council had recommended that its membership should be enlarged so as to include one representative of the Indian Chemical Society, Calcutta.

The Government of India have accepted this recommendation and the Department of Education Resolution No.16-10/44-E.III(P), dated the 30th November, 1945 establishing the All India Council for Technical Education has been amended suitably by resolution No.F.1-2/46-E.III(P) dated the 24th July 1947, and a nominee of the above named organisation appointed as member of the Council.

As recommended by the Council, representation has also been granted to the Central Board of Irrigation and a nominee of the Board has been appointed to be a member of the Council.

The Ministry of Industry & Supply desired to have one more representative to enable them to nominate a technical officer on the Council. This request has been granted.

The recent constitutional changes necessitated certain amendments to the Government of India Department of Education Resolution No.F.16-10/44-E.III, dated the 30th November,1945 establishing the All India Council for Technical Education. These have been carried out and a copy of the above mentioned resolution incorporating all amendments upto 6.12.47 is submitted for the information of the Council (Appendix A)

The Constituent Assembly of India (Legislative) have elected five new representatives as members of the Council to replace the representatives of the old Central Legislature.

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II. Committees of the Council.

All India Board of Technical Studies.

The term of office of the All India Boards of Technical Studies expired on the 31st December, 1947 and the Boards were reconstituted, with effect from 1st January, 1948.

Regional Committees.

In consultation with the Provincial and State Governments it has been decided to set up four Regional Committees of the Council. A note setting out the action taken in this connection is submitted separately.

III. Co-ordination of Higher Technical Education.

It was suggested by the Council at its first meeting that there should be coordination of the activities of the different Central Government Departments in the field of technical education.

The Government of India have accepted the suggestion. A classified list of technical subjects indicating the Government Department(s) interested in each subject and the Ministry primarily responsible for education therein has been circulated to the Ministries concerned and it is hoped that the list end the arrangements for coordination will shortly be finalised and put into effect. It is proposed to set up inter-departmentall committees for the purpose of ensuring coordinated development of technical education on an all India basis.

With a view to securing uniform standards for higher technical education throughout India, a memorandum was sent to the Inter-University Board with the request that they may consider the desirability of appointing a Committee with which a small committee of the All India Council for Technical Education may co-operate, if necessary, in drawing up the general principles to be

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observed in regard to technical education for the degree courses of universities.

IV. Higher Technical Institutions.

Consequent on the decision of the Ministry of Railways not to locate their proposed locomotive workshop at Kanchrapara, it was considered necessary to explore alternative sites for the location of the Eastern Higher Technical Institution. The matter was considered by the Co-ordinating Committee at its fourth meeting held on the 15th November, 1947. The Committee agreed that it was not now desirable to locate the institution at Kanchrapara and suggested that the Government of India should request the Government of West Bengal to acquire a suitable piece land, measuring at least 600 acres, within a few miles from Calcutta. The Government ofWest Bengal were accordingly approached in the matter and they have suggested a few p possible sites for the Eastern Higher Technical Institution and have also expressed their willingness to offer a site free of cost, if necessary, for the institution. The Hijli Detention Camp site near Khargpur about 73 miles from Calcutta, is considered to be the most suitable site.

In consultation with the Government of Bombay, a number of sites for the location of th Western Higher Technical Institution were inspected and a site measuring approximately 1000 acres including the North Kurla Military Depot is considered to be most suitable from all points of view. Negotiations are going on with the Ministry of Defence, Government of India, for the release of temporary buildings occupied by the Army Camp for the use of the proposed Higher Technical Institution. On receipt of a favourable reply from the Ministry of Defence, the Government of Bombay will be requested to acquire the site in question.

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Steps have been taken to advertise the posts of Director and eight Heads of Departments for the Eastern Higher Technical Institution simultaneously in India through the Federal Public Service Commission and in the U.K. and U.S.A. through the High Commissioner for India in London, and the Indian Embassy in Washington respectively.

The Provincial and State Governments in the Southern Region were requested to state the facilities they could offer in the matter of a suitable site, buildings water supply etc. for the proposed Southern Higher Technical Institution. Their replies will be considered by the sub-committee appointed by the Co-ordinating Committee to deal with the question in due course.

V. Strengthening of existing Institutions.

Three more visiting committees were constituted as shown below:-

1. For the Jaipur Bikramdev College of Science and Technology, Waltair, Andhra University and the Chemical Technology Department of the Madras University.

(i) Sir J.C. Ghosh

(ii) Dr. M.N. Saha

(iii) Dr. B.C. Guha.

2. For the Department of Applied Physics and Applied Chemistry of the University College of Science and Technology of the Calcutta University.

(i) Prof. M.S. Thacker

(ii) Dr. B.B. Dey.

3. For the Lakshminarayan Institute of Technology, Nagpur University.

(i) Rai Bahadur N.K. Mitra

(ii) Dr. B.C. Guha

(iii) Dr. S.R. Sen Gupta.

The reports of these visiting committees along with the reports of the five visiting committees appointed earlier

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were considered by the Scrutinising Committee appointed by the Co-ordinating Committee at its third meeting, and the recommendations of the Scrutinising Committee were placed before the Coordinating Committee at its fourth meeting held in New Delhi on the 15 November 1947. The Co-ordinating Committee recommended that grants from the Central Revenues to the extent of Rs. 1.5 crores on capital expenditure and Rs. 30 lakhs on recurring expenditure be made to fourteen institutions. The Committee further recommended that these grants should be spread over a period varying from 3 to 5 years beginning with the financial year 1947-48.

The Standing Finance Committee of the Legislature has approved in principle the scheme for strengthening and improvement of the existing technical institutions, and agreed

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that the institutions should receive such grants for the year 1947-48 as may be decided after necessary scrutiny by the Ministry of Finance.

V- Craftsman Training Scheme.

A note stating the action taken by the Ministry of Labour (Resettlement & Employment Directorate) in implementing the recommendations of the Advisory Committee on Technical Training concerning (i) the training and apprenticeship of craftsmen for industry and (ii) training of instructors, is submitted for the information of the Council (Appendix B).

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Appendix A to annexure 6.
Item No. 5 of Agenda

(5) third meeting

All India Council for Technical Education.

MINISTRY OF EDUCATION

RESOLUTION

New Delhi, the 30th November, 1945

(The resolution below incorporates all Amendments made from time to time upto 6-12-47)

ESTABLISHMENT OF AN ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION.

No. F. 16-10/44-E. III.—In their plan for Post-War Development in India the Central Advisory Board of Education have given reasons for their belief that technical education at the higher stages cannot in modern conditions be effectively organised on a provincial basis. They have emphasised the need for planning this particular branch of education on an All-India basis if there is to be substantial industrial development in the post-war period and have remarked that "to stimulate, co-ordinate and control the provision of the educational facilities, which such a development as well as existing industry will need, there must be an All-India body in supreme charge". They have accordingly recommended the establishment of a National Council for Technical Education which, they suggest, should control policy in technical education generally and deal with all technical institutions above the high school stage except the Technological Departments of Universities. It is obvious that this recommendation raises issues, agreement on which is likely to be reached only after considerable discussion with the various authorities concerned. At the same time the development of technical or practical instruction at all stages is important not only in view of the accepted need for making Indian education generally more realistic but also because it has an essential and urgent contribution to make towards other branches of post-war reconstruction which will demand a large increase in the available supply of Indian technologists and technicians. A necessary preliminary to any planned and balanced development of technical education is a survey by a single competent body of existing facilities, probable post-war requirements and present and prospective proposals for development in this important sphere of education. For the immediate task of survey and advice it is not necessary that an All-India Council for Technical Education should be endowed with executive, administrative or controlling powers of any kind or that its establishment should be delayed until all the issues raised by the Central Advisory Board's recommendations have been settled. It has accordingly been decided that the All-India Council for Technical Education should be set up immediately, composed in the way suggested by the Central Advisory Board, but entrusted in the first instance with advisory functions only. It will be understood that the decision to set up the Council immediately with advisory functions is without prejudice and at the same time without commitment to the full implementation at a later date of the proposals in this behalf of the Central Advisory Board.

2. *Functions.*—The immediate task of the Council for Technical Education will be to survey the needs of the country as a whole for higher technical education, with special reference to prospective post-war needs, and to advise in what areas technical institutions should be established, for what branches of technology each should provide and up to what standards they should operate. In particular it will be empowered:—

(a) to survey the whole field of technical education in consultation with Provincial Governments and such Acceding States as may be willing to co-operate with it;

(b) to consider such immediate projects as are already under consideration by various Ministries of the Government of India, *e.g.*, the provision of senior All-India Polytechnics on the lines of the Massachusetts Institute of Technology or the establishment of a Technical College for Electrical (Power) Engineering, and to assign to these their appropriate place in all All-India Scheme; and

(c) to conduct preliminary investigations with a view to ascertaining the conditions on which the authorities in control of existing technical institutes would be prepared to co-operate in an All-India Scheme.

3. *Constitution.*—The Central Advisory Board have envisaged the establishment of a Council representative of all the main interests concerned with technical education. Acceptance of this view precludes the setting up of a small and compact body. Technical Education has many facets, and the representation of the interests best qualified to assist the attainment of the objects in view can be achieved only at the expense of enlarging the size of the Council. It will be open to the Council to appoint such executive committees or other subordinate bodies as may be required to facilitate the discharge of its business. The Council will be composed as under:—

(i) *Members*—(a) Chairman, who will be an eminent person connected with Industry or Commerce, will be selected by the Government of India. On occasions when he is unable to preside over a meeting of the Council the Educational Adviser to the Government of India will deputise for him.

(b) Educational Adviser to the Government of India.

(c) Representatives of the Ministries of the Government of India.

(d) Five members of the Central Legislature elected by it.

(e) One representative of each Provincial Government.

(f) Five representatives of the Acceding States to be nominated by the Ministry of States.

(g) Fourteen representatives of Industry, Commerce and Labour to be nominated by the following institutions:—

Associated Chambers of Commerce;

All-India Organisation of Industrial Employers;

Federation of Indian Chambers of Commerce;

Indian National Trade Union Congress.

Employer's Federation of India;

All-India Trade Union Congress;

Indian Federation of Labour; and

All-India Railwaymen's Federation.

(h) Two members of the Central Advisory Board of Education in India.

(i) Two members of the Inter-University Board, India, to be nominated by the Inter-University Board of India.

(j) Two representatives of the Association of the Principals of Technical Institutions in India.

(k) Two representatives of the Institution of Engineers, India.

(l) Two nominees of the Government of India to represent any other interests which they may consider desirable.

(m) One representative of the Indian Institute of Architects, Bombay.

(n) Two representatives of the National Planning Committee.

(o) One representative of the Indian Chemical Society, Calcutta.

(ii) *Tenure of office*—The tenure of office of the non-official members including the Chairman will be three years; provided that a member elected or nominated under sub-clause (d), (h) or (i) above shall cease to be a member of the Council if he ceases to be a member of the Central Legislature, Central Advisory Board of Education or

Inter-University Board of India, as the case may be. The official members of the Council will continue until they are replaced by others. All casual vacancies among the members (other than *ex-officio* members) shall be filled by the authority or body who nominated or elected the member whose place becomes vacant, and the person appointed to a casual vacancy shall be a member of the Council for the residue of the term for which the person whose place he fills would have been a member.

4. The All-India Council for Technical Education will be attached to the Ministry of Education. A member of the staff of that Ministry will be the Secretary of the Council. It will be the function of the Educational Adviser to the Government of India assisted by the Secretary of the Council to prepare the agenda for its meetings and attend to all work relating to the Council.

5. The names of members of the Council under para. 3(i) above will be announced in due course.

ORDERED that a copy of this Resolution be communicated to all Provincial Governments and Minor Administrations and all Ministries of the Government of India.

2. ORDERED also that the Resolution be published in the Gazette of India for information.

D. M. SEN, Secy.

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APPENDIX B.

Report on progress made in implementing the recommendations of the Advisory Committee on Technical Training.

The Advisory Committee on Technical Training made certain recommendations in its Report (1944-45) concerning (i) the training and apprenticeship of craftsmen for Industry and (ii) training of Instructors. The following is the present position regarding implementation of the Committee's recommendations:-

(i) Training and apprenticeship of craftsmen for Industry:

The Provincial Governments were addressed by the Ministry of Labour in May, 1947, regarding the action proposed to be taken on the recommendations of the Advisory Committee. It was suggested to them that the Committee's recommendations could be implemented immediately by admitting a limited number of young boys to some selected Training Centres, which the Ministry of Labour has set up for the training of demobilised Services personnel, and giving them training as proposed by the Committee. As the requirements of ex-Servicemen became smaller, more vacancies could be provided for boys and ultimately the Centres would be engaged exclusively on their training. A long term plan of training, as recommended by the Committee, could thus be gradually built up. The Ministry of Labour undertook to provide the necessary machinery and equipment and to organise and supervise training through its directional and inspectional staff and arrange for trade testing on the completion of training. The Provincial Governments were required to bear only the recurring expenditure involved in the training of boys.

Replies have now been received from all the Provincial Governments. The Governments of Assam, West Bengal, Bihar, Orissa, Bombay and East Punjab have accepted the suggestion and agreed to participate in the Scheme of training

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recommended by the Advisory Committee. The Governments of Madras, U.P., C.P. and Berar have not agreed to join the Scheme as they have their own plans for providing facilities for craftsman training in their respective Provinces. The Government of C.P. & Berar, it is understood, are reconsidering their decision and will very likely participate in the scheme. No official communication, however, has so far been received from them.

The Advisory Committee has recommended that training of craftsmen should be planned and organised on a national basis and its aim should be to train boys for a National Certificate of Craftsmanship. This will ensure uniformity of standards throughout the country and facilitate mobility of labour. This object, however, cannot be achieved if all the Provincial Governments do not agree to join the Scheme. The question also arises what arrangements should be made for the administration of the Training Scheme for juveniles after the training of ex-Servicemen has come to an end and the Training Centres set up by by this Ministry for their training are closed.

The matter is being placed before the Conference of the Provincial Labour Ministers to be held in New Delhi in April, 1948 and it is hoped that the Conference will be able to give definite guidance regarding the action to be taken on the recommendations of the Advisory Committee on Technical Training.

(ii) Central Institute for the Training of Instructors:

A Scheme for the establishment of a Central Institute for the training of Instructors, as recommended by the Advisory Committee, was submitted to Government last year. The Provincial Governments were also consulted whether they would support such a Scheme by sending Instructors employed, or to be employed by them, for training at the Institute and share the recurring cost of training of their nominees on a proportionate basis. The Governments of Assam, Bihar, Orissa, U.P., C.P. and Berar and East Punjab have agreed to participate in the Scheme. The

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Governments of Madras and Bombay have not agreed to join the Scheme as they have their own plans for training Instructors. A reply from the West Bengal Government is still awaited.

The Government of India has now sanctioned the scheme for a period of 3 years in the first instance. The Institute will be located at the Combined Technical and Vocational Training Centre, Koni Camp, Bilaspur, C.P. where sufficient accommodation is already available and where the Combined Training Centre will serve the purpose of a practising school for the Instructor trainees. The Institute will provide training to the Instructors employed at the Training Centre for ex-Servicemen with a view to improving their efficiency and teaching ability and will

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also train new Instructors to meet replacement needs and the requirements of the Provincial Governments and recognised private Institutions. It will have a capcity for training 200 Instructors at a time and courses will be provided in a number of trades. Arrangements will also be made to provide refresher courses with a view to ensuring that Instructors are always up to date and conversant with the latest methods of production and teaching work. Efforts are being made to start the Institute in April, 1948.

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NOTE ON THE ACTIVITIES OF THE ALL INIDA BOARDS OF TECHNICAL STUDIES SINCE THE LAST REPORT TO THE ALL INDIA COUNCIL FOR TECHNICAL EDUCATION IN 1947.

MEETINGS:-

The following meetings were held during the period under report:-

i) All India Board of Technical Studies in Architecture and Regional Planning - 29th July, 1947 at New Delhi.

ii) All India Board of Technical Studies in Commerce and Business Administration - 31st July 1947 at New Delhi.

iii) All India Board of Technical Studies in Engineering and Metallurgy and its Syllabus Committee - 4th, 5th and 6th August 1947 at New Delhi.

iv) All India Board of Technical Studies in Textile Technology and its Specialists Committee - 11th, 12th and 13th August 1947 at Bombay.

v) All India Board of Technical Studies in Chemical Engineering and Chemical Technology - 23rd August 1947 at New Delhi.

vi) All India Board of Technical Studies in Applied Art and its Specialists committee - 17th and 18th November 1947 at New Delhi.

vii) Examination Committee of the Commerce Board - 5th February 1948 at New Delhi.

viii) Examination Committee of the Architecture Board - 6th February 1948 at New Delhi.

ix) Examination Committee of the Chemical Engineering Board - 13th February 1948 at Calcutta.

x) Examination Committee of the Chemical Engineering Board - 14th February, 1948, at Calcutta.

As desired by the Co-ordinating Committee it was originally arranged to hold the meetings of the All India Board of Technical Studies in Applied Art and of its Specialists Committee at Calcutta. But these meetings had to be postponed, twice, due to the unsettled conditions prevailing at that time in Calcutta. Ultimately it was decided by the Chairman of the Board to hold the meeting in New Delhi.

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2. COORDINATING COMMITTEE'S DIRECTIVES ON THE STANDARD OF ALL INDIA COURSES.

At their meetings held in July-November 1947 the All India Boards of Technical Studies considered the Co-ordinating Committee's directives in regard to the Standard of All India Courses as embodied in the memorandum on the subject (Appendix I). The Boards were in general agreement with the views expressed by the Co-ordinating Committee.

While agreeing with the Coordinating Committee that the Rules and Regulations for the Diploma examinations should be so framed that the holders of All India Certificates or equivalent qualifications engaged in full or part-time occupations in appropriate branches of Technology, are able to take the All India Diploma by taking the course on a part-time basis, some of the Boards were of the view that due to a number of practical difficulties it may not be possible to arrange for instructions in the entire Diploma course on a part-time basis. In the opinion of these Boards attendance on a full-time basis for a period of at least one year was essential after acquiring the All India Certificate to qualify for a Diploma. The Engineering and the Architecture Boards however recommended that facilities should be made available for going through the entire Diploma course on a part-time basis also. The Chemical Technology Board held the view that it was not possible to cover the course of the standard stipulated by the Co-ordinating Committee either wholly or in part in that manner. The detailed provisions made by the different Boards in their Regulations are being submitted later in the report together with the complete schemes for the All India Courses.

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The minimum academic qualification for admission to the All India Diploma courses has been fixed for the time being at Intermediate Science or Pre-Engineering examination except in the cases of Commerce, Architecture and Applied Art where, Matriculation has been prescribed for the same. The raising of the admission qualification to Higher Secondary Certificate is now under consideration of the Commerce Board and it is possible that the other two boards may consider it desirable to do the same.

For persons who for some reason or the other have had to interrupt their studies and have thus been unable to acquire the minimum academic qualification an entrance examination of a standard equivalent to that of the minimum qualification has been prescribed for purposes of admission.

In regard to the Certificate courses the Boards agreed in toto with the recommendations made by the Coordinating Committee. Provision is being made in the schemes for enabling the All India Certificate holders to study further up to the Diploma standard in a subject or subjects in which they are interested.

3. CURRICULA AND SYLLABUSES FOR THE ALL INDIA COURSES.

Considerable progress has been made by the Boards in working out details of Curricula and syllabuses for the All India Courses. In the light of the directives given by the Coordinating Committee in regard to the standard of Diploma and Certificate courses the Boards reviewed the content of the courses that were either already in existance or were recently framed by their committees.

The Architecture and the Commerce Boards were of the opinion that the courses already framed by them were of the required standard and no change was therefore necessary.

The Engineering Board framed new sullabuses for the All India Diploma courses in Civil, Mechanical and in

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Electrical Engineering. The first year of the new course in Electrical Engineering has been introduced in the affiliated institutions. The Syllabus Committee of the Board is now engaged on the work connected with the framing of Certificate courses.

The Chemical Technology Board has decided on the total content for All India courses in Industrial Chemistry, Electro-Chemistry, Textile Chemistry and Fuel Technology. A small committee is now engaged in apportioning the total syllabus to the different sessions comprising the course.

The Textile Technology Board has settled the curriculum for the Diploma course in Cotton, Silk, and Woollen and Worsted Technology. The detailed syllabuses for the All India Diploma Courses in Rayon Technology and in Woollen and Worsted Technology have been completed by the Specialists concerned and will be considered by the Specialists Committee of the Board at its next meeting.

The Applied Art Board has accepted the recommendations of its Specialists Committee that there should be a general Art Course of three years' duration with Painting and Sculpture as the main subjects and that it should be followed by a two years course in specialised branches of Art Education. The Board has accepted a draft syllabus for the general Art Course prepared by one of its members subject to certain additions in respect of general subjects such as History of Art, Sociology and Business Methods, and Costing. A small Committee has been appointed for the purpose of carrying out the above modifications to the general course and for framing courses in Specialized subjects.

4. PRACTICAL TRAINING.

Practical training for one year forms an integral part of the All India Diploma Courses in Engineering, Chemical

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Technology and Commerce. The Engineering Board considered the question of provision of facilities for practical training to enable thestudents to acquire the Diploma and expressed the view that provision of such facilities should be the joint responsibility of the affiliated institutions and the Government of India.

5. RULES AND REGULATIONS FOR RECOGNITION OF INSTITUTIONS

Rules and Regulations governing recognition of institutions desirous of imparting instructions for the All India courses have been framed by the Commerce and the Architecture Boards. The other Boards are expected to take up the matter after they have completed framing of curricula, syllabuses etc.

With a view to ensuring expeditious disposal of applications for affiliation, it was proposed that each of the Boards might have a small "Affiliation Committee" which should consider all such applications duly endorsed by the Provincial or the State Governments concerned. The Affiliation Committees of the different Boards would frame supplementary rules in addition to the Rules and Regulations for Recognition of Institutions that may be laid down by the Council. These Committees shall either inspect the institutions or arrange for their inspection and make their recommendations to the Boards.

The Architecture and Commerce Boards have accepted the suggestion and have appointed Affiliation Committees. The Textile Board has formed a panel of names from which the Chairman is empowered to select the personnel for committees to deal with specific applications, and the Engineering Board has empowered the Chairman to appoint an appropriate committee for each application received by the Board.

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6. EXAMINATIONS.

The following examinations were conducted during the period under report:-

i) All India Intermediate Examination in Architecture.
ii) All India Diploma Examination in Electrical Engineering.
iii) All India Certificate Examination in Electrical Engineering.
iv) All India Diploma Examination in Commerce.

The All India Diploma Examination in Chemical Technology was scheduled to be held on the 23rd June 1947 but the students abstained from taking the examination.

With a view to ensuring smooth conduct of the examinations and also to maintaining the standards, Examination Committees have been appointed by the different Boards for holding the All India Examinations. The functions assigned to the Examination Committees are:-

a) to fix the dates and centres for the examinations,
b) to appoint examiners from amongst the panel formed by the Board,
c) to make arrangements for the conduct of examinations,
d) to arrange for the moderation of question papers,
e) to consider the results and to declare the same,
f) to report to the Board on the conduct of examinations.

Arrangements are being made to hold the following Examinations in May 1948:-

i) All India Diploma Examination in Electrical Engineering.
ii) All India Certificate Examination in Electrical Engineering.
iii) All India Diploma Examination in Chemical Technology.
iv) All India Diploma Examination in Commerce.
v) All India Certificate Examination in Commerce.
vi) All India Intermediate Examination in Architecture.

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7. DRAFT REGULATIONS FOR THE CONDUCT OF EXAMINATION.

The Coordinating Committee at their meeting held on the 5th February 1947 had directed that the draft regulations for the conduct of examinations placed before them, be considered by the Boards in the first instance, before they were finalized by the Committee. The Coordinating Committee had specifically raised certain issues arising out of the draft for the consideration of the Boards.

All the Boards have considered the draft regulations except the Applied Art Board which decided to defer the consideration of this matter to a later date. The Boards do not favour the holding of supplementary examinations in addition to the annual principal examination. The Chemical Technology Board, however, recommends that a special examination be arranged every year for the compartmental candidates.

The draft regulations for the conduct of examinations have been examined by the five Boards and certain modifications have suggested. Except in regard to certain minor regulations which may be different for different Boards, it is desirable that regulations should be uniform. The modifications to the general draft proposed by the different Boards are being placed before the Coordinating Committee for consideration at its next meeting.

8. ARCHITECTURE BOARD - PROPOSAL TO PERMIT PRIVATE STUDENTS TO APPEAR FOR THE ALL INDIA EXAMINATION.

At its meeting held on the 27th & 28th May 1947, at Bangalore the Coordinating Committee observed that attendance at part-time classes should be obligatory for all the candidates who might not be pursuing full-time instruction to enable themselves for taking the All India Examination in Architecture. The All India Board of Technical Studies in Architecture and Regional Planning considered the question at great length at their meeting;

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on the 29th July 1947, and passed the following resolution unanimously for consideration of the Council:-

" In view of the fact that the Indian Institute of Architects does not conduct any professional examination and that there is a total dearth of Architectural Schools in the country, the system of permitting private candidates to appear for the All India examinations in Architecture may be continued as an interim measure and that in places where Architectural Schools are available, the candidates shall be required to attend at least part-time courses to be eligible for appearing at the All India examination. "

9. APPLIED ART BOARD - NEW SCHEMES.

A complete scheme for the establishment of a central school of printing was drawn up by Mr. H.K.Das, a member of the Specialists Committee of the Applied Art Board and was considered by the Committee at its meeting held on the 17th November 1947. The Committee commended this excellent scheme to the Printers of India and appealed to them to come out with at least a part of the Finances required for its implication.

The Board appreciated that one school of this type would not be sufficient for the whole of India. As desired by the Board copies of the scheme have been sent to the Provincial Governments with the request that they may consider the question of establishment of such schools within their jurisdiction. The Board has invited their comments on the scheme also. No reply has so far been received.

10. RECOGNITION - ALL INDIA DIPLOMA IN ENGINEERING.

The All India Diploma in Engineering has been recognised by the Institute of Engineers (India) as exempting from Parts 'A' & 'B' of their Associate Membership Examination.

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The Governments of Orissa and the Travancore State have recognised the All India Diploma as equivalent to a Degree for the purpose of employment under them.

11. RECONSTITUTION OF THE ALL INDIA BOARDS OF TECHNICAL STUDIES

The term of office of the previous All India Boards of Technical Studies expired on the 31st December 1947 and the Boards were to be reconstituted with effect from the 1st January 1948. Accordingly various bodies and organisations comprising the different constituencies were requested to send in their nominations for the membership of the reconstituted Boards.

The Co-ordinating Committee at its meeting held on the

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15th November 1947, while considering the question of reconstitution of the All India Boards of Technical Studies, authorised its Chairman to constitute the new Boards. Accordingly the panels of names formed as a result of the recommendations made by the different organisations, were forwarded to the Chairman for final selections. The approved personnel of the reconstituted Boards is given at Appendix 'A', to Annexure 7(a), item No.6(b) of Agenda.

APPENDIX I.

A note on the activities of the All India Boards of Technical Studies was considered by the Coordinating Committee of the All India Council for Technical Education at its meeting held at Bangalore on the 27th and 28th May'47. The Committee made the following recommendations which were later endorsed by the Council at their meeting held on the 29th and 30th May 1947:-

i) (a) The All India Diploma courses should be equivalent in standard to Degree courses in Universities but greater emphasis should be laid on the practical side.

(b) While it is intended that the Diploma course should be taken on a full-time basis, the rules and regulations for the Diploma Examinations should be so framed that the holders of All India Certificates or equivalent qualifications, engaged in full or part-time occupations in appropriate branches of Technology, may be able to take the All India Diploma by taking the whole or part of the course on a part-time basis, if they so desire.

(c) The minimum qualification for admission to the All India Diploma courses should therefore be fixed, keeping both the above considerations in view.

(ii)(a) The All India Certificate courses, which are intended to afford opportunities to persons engaged in appropriate full-time or part-time occupations to improve themselves, should be equivalent in standard to that of formanship courses.

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(b) The Certificate courses should therefore be so designed that these can be taken mainly on a part-time basis.

(c) The minimum qualification for admission to such courses need not, therefore, be fixed rigidly except that a candidate should be required to prove his ability to follow the courses of instruction.

(d) Provision should also be made for an All India Certificate holder to further specialize in his chosen subject or subjects with a view to obtaining a higher All India Certificate. The standard obtained should be equivalent to that prescribed for the subject or subjects which form a part of the All India Diploma course.

(iii) Minimum requirements in respect of staff, equipment and class rooms, laboratories and workshops etc., should be prescribed for the different courses in relation to the standard of education proposed by the Boards and only such institutions granted affiliation to the Council as are able to fulfil the conditions thus prescribed.

(iv) The Boards may consider the desirability of coopting outside experts as member if necessary for the purpose of drawing up detailed syllabuses in Humanities, such as Economics Sociology, etc.

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(v) The Boards should complete the preparation of the All India Schemes and submit the same to the Coordinating Committee before the end of the year.

2. It may be recalled in this connection that the following functions were assigned to the Boards by the All India Council for Technical Education at its first meeting held on the 30th April, 1st and 2nd May, 1946.

(1) To examine the existing regulations and syllabuses for certificates and diplomas in the different provinces and to frame definite regulations governing the grant of

a) All India Certificates.

b) All India Diplomas.

c) Higher Diploma of the Higher Technical institutions.

(2) To recommend what conditions should be prescribed for recognition of the different types of technical institutions taking into consideration -

a) qualification, nature and number of teaching staff required and conditions of service

b) accommodation needed for teaching purposes and for staff and students

c) the nature and extent of the equipment required,

d) facilities for practical, and

e) such other conditions as may be required for the recognition of the institutions.

(3) To recommend persons who should be appointed as inspectors and visitors to report on the conditions of the institutes with a view to the grant of initial recognition or continuation of recognition;

(4) To recommend persons who should be appointed as external examiners;

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(5) To suggest names of assessors who will visit the centre, report on the soundness and standard of examinations;

(6) To perform such other duties as may be necessary for the fulfilment of the above purpose or as may be prescribed by the Co-ordinating Committee.

3. It should also be mentioned that pending the formation of Regional Committees of the All India Council for Technical Education, the Boards have been assigend the following additional functions:-

i) To appoint Boards of Examiners and to arrange for proper conduct of Examinations.

ii) To publish the results of Examinations.

iii) To submit to the Coordinating Committee comprehensive reports on the Examinations if any conducted by them.

iv) To make preliminary examination of any institution seeking recognition and to make recommendations thereon to the Coordinating Committee.

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Annexure 2
Item No.3 of Agenda of the
Fifth meeting of the
Coordinating Committee.

Annexure 7(a)
Item 6(b) of the agenda of
the 3rd meeting of the
Council.

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ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

M E M O R A N D U M

The term of office of the previous All India Boards of Technical Studies expired on the 31st December 1947, and the Boards were to be re-constituted with effect from the 1st January 1948.

2. The constitution of the Boards as laid down by the All India Council for Technical Education at its first meeting held in May, 1946, is as follows:-

Representative of the All India Council for Technical Education	1
Representative of the Associational of the Principals of Technical Institutions (India)	2
Representative of the Employees	1
Representative of the Employers	1
Representative of the Professional Bodies Concerned.	2
Representative of the Inter University Board of India	1

and 4 Specialists to be nominted by the Co-ordinating Committee. Each Board was authorised to co-opt not more than 3 members for any particular specialised branch of study.

3. The various bodies comprising the above constituencies were requested to send in their nominations for the membership of the Boards.

4. The Secretary, Association of Principals of Technical Institutions (India) has intimated that there would be no change in the representatives of the Association on the different All India Boards of Technical Studies except on the Commerce Board where Principal S.N.Agarwal, M.A., would replace Principal

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I.M.Kapoor of Haily College of Commerce, Lahore.

5. For the 'Employees Constituency' the four bodies addressed were:-

i) Indian Federation of Labour ii) All India Trade Union Congress iii) Indian National Trade Union Congress iv) All India Railwaymens' Federation	)	For all the Boards.
v) Textile Labour Association	-	For Textile Technology Board only.

The All India Railwaymen's Federation stated that at present, they did not have adequately qualified persons to suggest for nomination on the All India Boards of Studies.

6. As regards the 'Employers Constituency' two major Employers Organisations viz. Employers Federation of India, Bombay, and All India Organisation of Industrial Employers, New Delhi, were invited to suggest their nominees on the various Boards.

The following additional organizations were also addressed to suggest their representatives on the Boards mentioned against each:-

Commerce Board	1. Federation of Indian Chambers of Commerce and Industry.
Textile Technology Board.	1. Bombay Millowners Associations 2. Ahmedabad Millowners Associations 3. Bengal Millowners Association 4. Silk & Art Mills Association, Bombay.
Applied Art Board	1. Bombay Presidency Printers and Lithographers Association. 2. Bengal Association of Master Printers and Allied Industries.

The Employers Federation of India, Bombay, the All India Organisation of Industrial Employers, Delhi, and the Federation of Indian Chanbers of Commerce and Industry, New Delhi, expressed their inability to recommend names on account of the procedure that has been laid down by the All

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India Council for Technical Education for final selection. They were averse to their nominees being pitted against nominees of other organisations for the formation of a panel. Each of these bodies wanted to have a definite representation on the Boards, They were quite willing to accept representation on only some of the Boards. The position was, however, explained to them pointing out that the constitution of the Boards had been clearly laid down by the Council on which these bodies were duly represented and that they might kindly reconsider their decisions.

The Employers Federation of India subsequently nominated their representatives on the Engineering and Chemical Engineering Boards, whereas the remaining two bodies adhered to the previous stand taken by them.

7. For the constituency "Professional Bodies concerned" the bodies addressed are given below:-

Commerce Board.	1. Indian Institute of Bankers. 2. Cost and Works Accounts Institute, Calcutta. 3. Indian Merchants Chamber. 4. Indian Chambers of Commerce.
Architecture Board.	1. Indian Institute of Architects. 2. Institution of Engineers (India)
Engineering Board.	Institute of Engineers (India)
Applied Art Board.	1. All India Institute of Art in Industry, Calcutta. 2. All India Fine Arts & Crafts Society, New Delhi. 3. The Association of Advertising Agents in India.
Textile Technology Board.	Textile Association (India)
Chemical Engineering Board.	1. Indian Chemical Manufacturers Association. 2. Indian Chemical Society.

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Of the above named bodies the Association of Advertising Agents in India failed to send in their recommendations.

8. The Inter-University Board of India has sent the names of their representatives on the reconstituted Boards.

9. The question of the re-constitution of the All India Boards of Technical Studies on the expiry of their term of office on the 31st December 1947 was considered by the Co-ordinating Committee at its fourth meeting held on the 15th November 1947. The Committee authorised the Chairman to make the final selection and to nominate Specialists on behalf of the Coordinating Committee. The names approved by the Chairman are shown in the lists of the personnel for the re-constituted All India Boards of Technical Studies (Appendix 'A').

10. It will be observed from the lists that the seat allotted to the Employers Representative on each of the Boards has been left vacant. In view of the reasons explained in paragraph 6 above the Chairman of the Co-ordinating Committee desired that the matter be referred to the All India Council for Technical Education for the necessary directive.

11. Three members are to be coopted by each Board. The Coordinating Committee may like to recommend names for consideration of the Board of purposes of cooption.

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12. The All India Council for Technical Education at its meeting held in April-May 1946 elected the following members to represent the Council on the various Boards of Technical Studies:

i) Commerce and Business Administration ... Dr. A.Waheed
ii) Architecture and Regional Planning ... Mr. D.L.Mazumdar.
iii) Engineering and Metallurgy ... Mr. G.V.Apte.
iv) Chemical Engineering and Chemical Technology .... Prof: J.N.Mukerjee
v) Textile Technology ... ... Sir Fredrick Stones.
vi) Applied Art ... ... Miss Maniben Kara.

The Council may proceed to elect their representatives on the reconstituted Boards.

CHAIRMAN

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APPENDIX 'A'

ALL INDIA BOARD OF TECHNICAL STUDIES IN COMMERCE AND BUSINESS ADMINISTRATION.

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1. All India Council for Technical Education.	
2&3. Association of Principals of Technical Institutions (India)	1. Mr. S.N.Agarwal, M.A., F.R.E.S. G.S. College of Commerce, Wardah.
	2. Mr. M.J.Antia, M.A., LL.B., I.E.S.(Retd) 'Rupayatan', 60, Marine Drive, Bombay.
4. Employees.	Mr. Deben Sen, M.L.A. Secretary, Bengal Provincial Branch of Indian National Trade Union Congress, Calcutta.
5. Employers.	*
6&7. Professional Bodies Concerned.	1. Mr. M.L.Tannan, O.B.E., 'The Cliff' Carmecheal Road, Bombay. (Representing Indian Institute of Bankers, Bombay).
	2. Mr. G.Basu, B.A. R.A., F.S.A.A., F.I.C.W.A., F.C.I.S. 6, Hastings Street, Calcutta (Representing Cost & Works Accounts Institute, Calcutta).
8. Inter University Board of India.	Prof. B.N.Das Gupta, Lucknow University, Lucknow.
9-12. Nominees of the Coordinating Committee.	1. Sir Bertie Staig, G.S.I., I.C.S. Auditor General of India.
	2.Mr. D.G.Mulherker, 28, Ferozeshah Raod, New Delhi.
	3.Mr. M.P.Gandhi, C/O M/S Gandhi & Co., Jain Mansion, Sir Phiroze-shah Mehta Road, Fort, Bombay.
	4.Mr. K.M.Naik, G.D.A., R.A.A., General Manager, Associated Industrial Development Co., Ltd., Stephen House, 4, Dalhousie Square, Calcutta.
13-15. Co-opted Members	To be Co-opted by the Board.

* The position has been explained in the covering note.

Bodies addressed:

1. All India Organisation of Industrial Employers.
2. Employers Federation of India.
3. Federation of Indian Chambers of Commerce and Industry, New Delhi.

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ALL INDIA BOARD OF TECHNICAL STUDIES IN ARCHITECTURE AND REGIONAL PLANNING

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1. All India Council for Technical Education.	
2&3. Association of Principals of Technical Institutions (India)	1. Dr. K.C.Chakko, B.A., D.Sc., M.I.E., Principal, College of Engineering, Annamalai University, Annamalai Nagar. 2. Mr. B.D.Puri, Principal, Thomason College of Engineering, Roorkee.
4. Employees	Mr. T.R.Ganesan, B.E., C/O Binny's Beach Engineering Worker's Union, 166, Linghi Chetty Street, G.T.Madras. (Representing All India Trade Union Congress).
5. Employers.	*
6&7. Professional Bodies Concerned.	1. Mr. Walter George, F.R.I.B.A. A.R.C.A. 1, Scindia House, New Delhi. (Representing Indian Institute of Architects) 2. Mr. B.R.Kagal, M.I.E.(Ind) Chief Town Administrator, The Tata Iron & Steel Co., Ltd., Jamshedpur. (Representing Institution of Engineers (India))
8. Inter-University Board of India.	Mr. L.M.Chitale, Madras University, Madras.
9-12. Nominees of the Coordinating Committee.	1. Mr. Claude Batley, F.R.I.B.A., F.I.I.A. C/O M/s Gregson, Batley and King; Chartered Bank Building, Bombay. 2. Mr. G.B.Deolalikar, Chief Architect, C.P.W.D., New Delhi. 3. Mr. Srish Chander Chatterji, Architect, 49, Malanga Lane, Calcutta. 4. Prof. C.M.Master, M.A., F.R.I.B.A. Prof. of Architecture, Sir J.J.School of Art, Bombay.
13-15. Co-opted Members	To be co-opted by the Board.

* The position has been explained in the covering note.

Organisations addressed:

i) All India Organization of Industrial Employers, and

ii) Employers Federation of India.

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ALL INDIA BOARD OF TECHNICAL STUDIES IN CHEMICAL ENGINEERING AND CHEMICAL TECHNOLOGY

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1. All India Council for Technical Education.	
2&3. Association of Principals of Technical Institutions (India)	1. Mr. P.N.Joshi, M.Sc.(Tech) Principal, V.J.T.I. Matunga, Bombay. 2. Dr. K.Venkataraman, D.Sc., Head of the Department of Chemical Technology, Bombay University, Bombay.
4. Employees.	Mr. V.B.Marathi, B.Sc., C/O Maritime Union of India, National Insurance Building, Hornby Road, Fort, Bombay. (Representing Indian Federation of Labour)
5. Employers	*
6&7. Professional Bodies Concerned.	1. Dr. H.Nagaraja Rao, Eastern Chemical Company, Bombay. (Representing Indian Chemical Manufacturers Association). 2. Dr. S.Krishna, Biochemist, Forest Research Institute, Dehradun (Representing Indian Chemical Society).
8. Inter University Board of India.	Mr. S.Mohiyuddin M.A., LL.B., M.Ed., Vice-Chancellor, Mysore University, Mysore.
9-12. Nominees of the Co-ordinating Committee.	1. Mr. S.P.Sen, General Manager, Bengal Chemical & Pharmaceutical Works Ltd., Calcutta. 2. Dr. H.L.Roy, A.B.(Harvard)Dr.Ing. Professor-incharge of Chemical Engineering, College of Engineering and Technology (Bengal), Jadavpur, 24-Parganas. 3. Dr. B.C.Guha, D.Sc., Ph.D., F.N.I., Professor and Head of the Department of Applied Chemistry, University College of Science, 92, Upper Circular Road, Calcutta. 4. Dr. N.N.Godbole, Ph.D., Principal, College of Technology, Benares Hindu University, Benares.
13-15. Co-opted Members.	To be co-opted by the Board.

* The position is explained in the covering note.

Bodies addressed:

i) All India Organisation of Industrial Employers, and
ii) Employers Federation of India.

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ALL INDIA BOARD OF TECHNICAL STUDIES IN ENGINEERING AND METALLURGY.

1. All India Council for Technical Education.	
2&3. Association of Principals of Technical Institutions (India).	1. Mr. A.C.Saghal, B.A., B.Sc.(Mech), A.M.I.E. Principal, Kalabhavan Technical Institute, Baroda. 2. Mr. N.N.Sen, Principal, Bengal Engineering College. Shibpore, Howrah.
4. Employees.	Mr. Michal John, President, Tata Iron & Steel Worker's Organisation, Jamshedpur. (Representing Indian National Trade Union Congress).
5. Employers	*
6.&7. Professional Bodies Concerned. (Institution of Engineers India)	1. Rai Bahadur N.K.Mitra, O.B.E., M.I.E. 16, Hindustan Road, Bash Behary Avenue, Calcutta. 2. Mr. H.J.Mulleneux, M.I.E., A.M.I.E.E. A.I.R.E(U.S.A), A.I.L.E., O.B.E., 32, Pali Hill, Bandra, Bombay.
8. Inter-University Board of India.	Mr. M.Sen Gupta, B.Sc.(Cal), B.Sc.(Eng) Hons.Glas., M.I.E.E.(Lond), M.I.E(Ind) A.M.I.E.Mech.E(Lond), C.P.E.(Glas) F.I.P.S., Benares Hindu University, Banaras.
9-12. Nominees of the Coordinating Committee.	1. Mr. N.S.Gupchup, B.E.(Bombay) B.Sc.(Edin) A.M.I.E.(Ind) A.M.I.E(England) 2. Mr. J.A.Taraporewala, B.Sc.(Edn)MIE, Principal, Engineering College, Poona 3. Dr. J.J.Rudra, M.B.E., M.A., B.Sc., Ph.D., A.I.I.S.C., M.I.E.E., Mem. A.I.E.E., Principal, College of Engineering Saidapet, P.O., Madras. 4. Mr. E.K.Ramaswami, B.Sc.(London) A.C.C.I., M.I.Mech.E., M.A.S.M.E., M.I.E., Principal, Engineering College, Bangalore.
13-15. Co-opted Members	To be co-opted by the Board.

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* Bodies addressed:
1) All India Organization of Industrial Employers - Refer paragraph 6 of covering note.
2) Employers Federation of India - Mr. G.V.Apte.

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ALL INDIA BOARD OF TECHNICAL STUDIES IN TEXTILE TECHNOLOGY.

1. All India, Council for Technical Education.	
2-3. Association of Principals of Technical Institutions (India)	1. Mr. P.N.Joshi, M.Sc.(Tech) Principal, V.J.T.I., Matunga, Bombay. 2. Mr. H.B.Shroff, Deputy Director of Industries (Education) Government of United Provinces, Kanpur.
4. Employees.	Mr. K.T.Sule, B.Sc., LL.B., C/O Girni Kamgar Union, Dalvi Building, Poibawadi, Parel, Bombay 12. (Representing All India Trade Union Congress).
5. Employers.	*
6&7. Professional Bodies Concerned (Textile Association India)	1. Mr. S.D.Oke, B.Sc.(Manchester) L.T.M.(Hons) Manager, The Jam Mills No.1., Lalbaug, Parel, Bombay. 2. Mr. V.R.Manohar, L.T.M. Cdg. & Spg. Master, Indian Manufacturing Co., Ltd., Jacob Circle, Bombay 11.
8. Inter-University Board of India.	Mr. H.C.Papworth, M.A., O.B.E., Pro-Vice-Chancellore, Travancore University, Trivandrum.

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* The position has been explained in the covering note.

Bodies addressed:

i) All India Organization of Industrial Employers.
ii) Employers Federation of India.
iii) Bombay Millowners Association - Sir Vithal N.Chandavarkar, Bar-at-Law, C/O N.Sirur & Co., Ltd., Temple Bar Buildings, 70, Forbes Street, Fort, Bombay.
iv) Ahmedabad Millowners ssociation. - Seth Amritlal Hargovindas. (Please see under nominees of the Coordinating Committee).
v) Bengal Millowners Association. - Mr. M.L.Shah, Messrs Mohani Mills Ltd., No.2 22, Canning Street, Calcutta.
vi) Silk & Art Mills Association Bombay. - Mr. Dhiraj Lal N.Shroff, 40, C, Ridge Road, Malabar Hill, Bombay.

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9-12 Nominees of the Co-ordinating Committee	1. Mr. J.O.Lal, c/o The Cawnpore Woollen Mills, Ltd., Kanpur.	
	2. Seth Amritlal Hargovindas, c/o The Ahmedabad Cotton Mfg. Co., Ltd., Railwarpura, Ahmedabad.	
	3. Dr. Lavji Thoria, Technical Adviser, The Travancore Rayons Ltd., Main Road, Trivandrum.	
	4. Mr. M.P.G. Nair, T.T.W.Fm. (Saxony) Spinn. Tech: (Bohemia) Principal, Institute of Textile Technology, University of Travancore, Trivandrum.	
13-15. Co-opted Members.	To be co-opted by the Board.	

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ALL INDIA BOARD OF TECHNICAL STUDIES
IN APPLIED ART

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1. All India Council for Technical Education.	
2& 3. Association of Principals of Technical Institutions (India)	1. Mr. Atul Bose, Principal, Government School of Arts, Calcutta.
	2. Mr. D.P.Roy Chowdhury, M.B.E. Principal Government School of Arts & Crafts, Madras.
4. Employees.	Mrs. Kalyani Karlekar, M.A., C/O Indian Federation of Labour, Albert Hall, 15, Paniki Chatterjee Street, Calcutta. (Representing the Indian Federation of Labour).
5. Employers	*
6&7. Professional Bodies Concerned.	1. General Secretary, Indian Institute of Art in Industry, 15, Park Street, 'Artistry House', Calcutta. (Representing the Indian Institute of Art in Industry).
	2. Mr. Anil Roy Choudhury, Secretary, All India Fine Arts & Crafts Society, Parliament Street, New Delhi. (Representing the All India Fine Arts and Crafts Society).
8. Inter-University Board of India.	Prof. N.K.Sidhanta, Lucknow University, Lucknow.

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* The position is explained in the covering note.

Bodies addressed:

i) All India Organization of Industrial Employers
ii) Employers Federation of India

iii) Bombay Presidency Printers & Lithographers Association	1. Mr. Hussaini A.Varawalla, Mg. Partner, Mohmdi Fine Art Litho Works, GunPowder Road, Mazagon, Bombay
	2. Mr. Parmanand Sugnomal, Mg. Partner, The Bolton Fine Art Litho Works, Tardoo Road, Tardoo, Bombay 7.
iv) Bengal Association of Master Printers & Allied Industries.	Mr. H.K.Das, Eagle Lithographic Co., Ltd., 26, Christopher Road, Entally, Calcutta.

It is suggested that the recommendation in respect of Mr. H.K.Das may be accepted for this constituency.

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9-12. Nominees of the Coordinating Committee.	1. Mr. Ratan Batra, Ratan Batra Studio Ltd., Feroze Shah Mehta Road, Bombay. 2. Dr. Stella Kramerisch, Professor of Indian Art, Calcutta University, 4, Shambunath Pandit Street, Calcutta 20. 3. Sri Gautama Sarabhai 4. Mr. V.N.Adarkar, G.D.Art.(Ptg)F.R.S.A. F.C.I.A.D.(Honoris Causa)(Eng). Deputy Director, Sir J.J.School of Art, Bombay.
13-16. Co-opted Members	To be co-opted by the Board.

CHAIRMAN*

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Annexure 8
Item No.6(c) of Agenda

Third meeting

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

MEMORANDUM

The term of Office of the All India Boards of Technical Studies expired on the 31st December 1947, and the Boards were therefore to be reconstituted with effect from the 1st January 1948.

The various bodies and Organisations connected with the different constitutecies were requested to send in their nominations for membership of the Boards.

The All India Council for Technical Education at its first meeting held in 1946 laid down that in the case of Organisations of Employers and Employees where there was more than one organisation concerned, each such recognised organisation would be requested to forward a name and from the panel thus formed the final selection would be made by the Coordinating Committee.

For the Employers Constituency two major Employers Organisations Viz: Employers Federation of India, Bombay, and All India Organisation of Industrial Employers, New Delhi, were invited to suggest names for nomination on all the Boards. In addition to these bodies the Federation of Indian Chambers of Commerce and Industry, New Delhi, was asked to suggest a nominee for the All India Board of Technical Studies in Commerce and Business Administration only. The three Organisations named above expressed their inability to recommend names for reasons stated in their letters reproduced below.

As the question involved a change in the mode of constitution of the Boards as laid down by the Council, the Chairman of the Co-ordinating Committee who was authorised by the Committee at its meeting held on the 15th November 1947 to make final selections and to nominate specialists on behalf of the Co-ordinating Committee,

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desired that the matter be placed before the All India Council for Technical Education and their directive obtained in the matter.

1. Copy of a letter dated the 12th December 1947 from the Secretary, the Employers Federation of India, Bombay.

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Sub: ALL INDIA BOARDS OF TECHNICAL STUDIES - RECONSTITUTION.

I am directed to refer to your letter No.F.4-83/47-E.III(P) dated the 11th November wherein you have stated that it is proposed to reconstitute the six All-India Boards of Technical Studies with effect from 1st January 1948. I note that one seat has been allotted to the representative of Employers on each of the Boards, that several Employers' Organisations have been requested to submit names, and that, out of the panel of names thus received, the final selection of a representative would be made by the Coordinating Committee of the Council.

I understand that my Federation's nominees on the Council, viz., Mr. G.V.Apte and Dr. K.Venkataraman, are already members of the All-India Board of Technical Studies in Engineering & Metallurgy, and the All India Board of Technical Studies in Chemical Engineering & Chemical Technology, respectively. My Federation presumes that they will continue to be members of the reconstituted Boards, and it is not, therefore, considered necessary to submit fresh nominations in connection with these Boards.

As regards the other Boards, my Federation does not wish to make any recommendations, having regard to the fact that, under the proposed procedure, there is no certainty of our nominations being accepted.

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2. Copy of letter No.I.E.919 dated the 16th December 1947 from the Secretary, All India Organisation of Industrial Employers, New Delhi.

Sub: ALL INDIA BOARDS OF TEHCNICAL STUDIES - RECONSTITUTION.

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I am directed to acknowledge receipt of your letter No.F.4-83/47-E.III(P) dated the 11th November 1947, inviting th Organisation to recommend the names of persons for nomination o the six Boards of Technical Studies, and to thank you for the same. I understand from para 4 of your letter that other Employers' Organisations have also been addressed by you with a similar request, and out of the panel of names thus suggested by the various Employers' Organisations, the final selection will be made by the Co-ordinating Committee of the All-India Council for Technical Education. The Organisation, since its inception, has all along maintained that it is the most representative organisation of industrial national employers in India, and if Government are anxious to secure its associatio in the working of any of their plans in which industrial employ are interested, it should be given direct representation instead of inviting it to suggest certain names to be on the panel for selection by your Co-ordinating Committee. The Organisation, therefore, regrets its inability to accede to Government's request to suggest the names of any persons to constitute a panel for selection on any of the six Boards proposed to be constituted from 1st January 1948.

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3. Copy of letter No.F.2450/691 dated the 16th December, 1947, from the Secretary, Federation of Indian Chambers of Commerce and Industry, New Delhi.

Sub: ALL INDIA BOARDS OF TECHNICAL STUDIES - RECONSTITUTION

I am directed to acknowledge receipt of your letter No.F.86/47-E.III(P) dated the 13th November 1947, informing th

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Federation of the reconstitution of six All-India Boards of Technical Studies, and to thank you for the same. The Govern-ment have invited the Federation to recommend for nomination on the All-India Board of Technical Studies in Commerce and Business Administration names of persons who would form a panel along with recommendations from other organisation, and out of the panel thus formed the final selection will be made by the Co-ordinating Committee of the All-India Council for Technical Education. The Federation of Indian Chambers of Commerce and Industry is the central organisation to represent all Indian interests in trade, commerce and industry, and you will appreciate, if the Government want the Federation to be represented on any of the Boards, it should be given a definite representation and should not be asked to suggest names to form a panel.

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ANNEXURE 9 — Third Meeting.
Item No. 7 of Agenda.

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ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M E M O R A N D U M.

The organisation of Technical Education.

The following suggestions have been received from the Government of West Bengal:-

"The technicians that will be required in each main employment may be divided into the following five categories:

1. Research workers including the Professors of Engineering Colleges.
2. Chief Executives consisting of fully qualified Engineers and Professional teachers of Engineering Institutions.
3. Minor Executives consisting of Foreman, Chargemen, Overseers and Demonstrators of the professional subjects in Engineering Colleges.
4. Skilled craftsmen.
5. Job workmen.

Therefore for the training of technicians of the above different categories it is obvious that we shall require the institutions of the following different types:-

(a) Research Institutions.
(b) Engineering Colleges.
(c) Engineering Schools.
(d) Junior Technical Schools.
(e) Trade Job Schools.

The Research Institutions should be started on an All India basis so as to avoid duplication and overlapping, facilities being provided to all the Provinces by fixing the quota of admission and all the Provinces being asked to contribute pro rata for the maintenance of these institutions, the initial expenditure being borne by the Central Government.

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As regards the institutions for the production of Engineers, every Province should have at least one such institution, its size depending on the industrial progress of the Province. These institutions instead of being of the Polytechnic type should be technological departments of Universities, i.e. Engineering Colleges. The impress of the University has a certain amount of dignifying aspect and adds lustre to the character of the individual which has far greater sociological value than can be achieved by education in a Polytechnic. It is therefore desirable that these institutions for the training of qualified engineers should be Engineering Colleges under the Universities but adequate steps should be taken to remove the two important charges that are levelled against them, viz. their too academic character and absence of contact with men with whom the students will have eventually to deal after the completion of their degree course. I.Sc. should be the admission qualification for the Engineering College and the course should be regulated so as to be covered in four years under the "Sandwich" system in which the practical training in the factories should be of at least three months' total duration in a year. The bar which now exists for the admission of the alumni of the Engineering Schools should be removed and they should get one year's remission so that may be admitted to the B.E. Degree on completion of a three years' course. The background of engineering knowledge which these students have acquired in three years in an Engineering School should be regarded as sufficient to outweigh the objection about lack of possession of advanced scientific background which is acquired by a Matriculate in two years at the I.Sc. stage.

As regards the production of the personnel of the third category, viz., Foremen, Chargemen, Supervisors, etc., three years' training in an Engineering School after Matriculation should be sufficient, more stress being given

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to the practical side so as to enable the products to acquire that amount of skill which will earn for them the admiration of the workers whose charge they will assume. The admission qualification for this group will be as indicated above, Matriculation (general or technical), preference being given to the Matriculation students who have followed the technical course which should be an alternative branch of study for the Matriculation Examination. The course of instruction should follow programmes of cultural instructions, of art, technique and administration together with Engineering subjects and practice in laboratories and workshops.

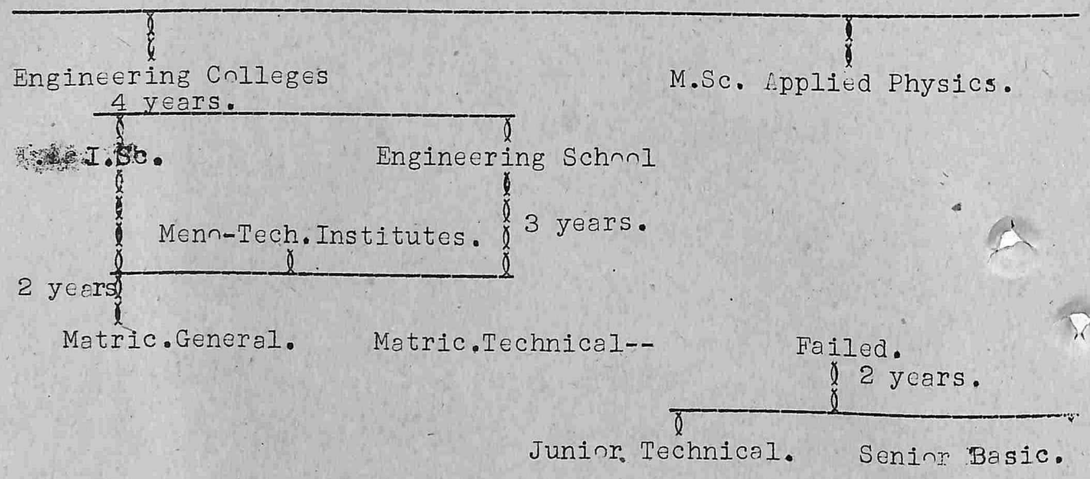
The fourth category will comprise the skilled craftsmen most of whom will not aspire to executive positions. These may be recruited from Technical High School pupils, passed or failed, or from the Senior Basic School pupils where they have mastered the rudiments of craftwork and put through a 2 years' course in Junior Technical Schools following a twofold programme of general knowledge and professional practice.

Below the four categories will come the great mass of semi-skilled and unskilled labour. No special academic training is required for them before entering employment apart from the knowledge of craft work they will have acquired in the schools. Factories employing large numbers of such semi-skilled workers are expected to run their own Trade Schools the establishment of which should not be the charge of Government.

The entire scheme of Technical Education as adumbrated above may be represented in the following genealogical form:-

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Technical Research Institutions.



In addition there is the necessity of various Meno-Technical Institutions, such as Textile Institute, Silk Institute, Art School, Tanning Institute, Ceramic Institute, Commercial Institute, etc. The admission to these will follow the Matriculation Examination.

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Third Meeting

Annexure 10
Item No 8 of Agenda.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

MEMORANDUM

REPRESENTATION OF THE TECHNICAL EMPLOYEES ASSOCIATION, CENTRAL PUBLIC WORKS DEPARTMENT FOR GRANT OF PERMISSION TO DIPLOMA-HOLDERS IN SERVICE TO APPEAR FOR THE DEGREE EXAMINATION.

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A representation was received from the Technical Employees' Association of the Central Public Works Department, that Diploma-holders, who had put in some service under Government, should be allowed to sit for the degree examinations irrespective of age and without being required to undergo the prescribed courses of studies at any institution. Their request was confined to (i) Architectural and (ii) Engineering courses only.

The Chief Engineer, Central Public Works Department, had consulted the Indian Institute of Architects and the Institution of Engineers (India) on the above subject, but both of them had expressed their inability to do anything in the matter. The Association had, therefore, requested that the Central Government should set up an Examination Board and prescribe a syllabus so that all the Diploma-holders in service could appear direct at the examination.

2. As the term of office of the All India Boards of Technical Studies expired on the 31st December, 1947, and the Boards were still in the process of re-constitution, it was not possible to ascertain the views of the two Boards concerned viz. the All India Board of Technical Studies in (i) Architecture & Regional Planning and (ii) Engineering and Metallurgy. The views of some leading members of the previous Board and other experts were however obtained and are summarised below.

Architecture:

3. All the experts were unanimous in their opinion that facilities should be given to such candidates to appear for the All India Examinations in Architecture conducted by the All India Board of Technical Studies in Architecture & Regional Planning. There were only three architectural schools in India. One at Bombay which admitted 39 students a year, the second at Baroda (Kalabhavan Technical Institute) which had almost been closed down for want of staff, and the third one at the Delhi Polytechnic which was recently started. The above three institutions were deemed totally insufficient to cater for the needs of the country to produce qualified architects. The dearth of Architectural Schools precluded many an ambitious young man to get the benefit of proper education and training and left no option but to start work as a tracer and a junior Draughtsman somewhere in an Architect's office. If architectural schools could not be started for want of qualified staff, then the next best thing was to give an opportunity to the persons already working in this line for several years to pass the All-India Examinations in Architecture conducted by the Board as private students.

The All India Board of Technical Studies in Architecture & Regional Planning has already provided for the examination of private candidates. An extract from the proceedings of the second meeting of the Board held in July 1947 is given below:-

"As an interim measure private candidates from cities in which there is no architectural school shall be permitted to sit for the Intermediate Examination on production of proof of having worked for four years in an Architect's office approved by the Board and on production of testimonies. Such candidates will have passed the elementary and preliminary examinations of the course before offering themselves for the Intermediate Examination.

(13)

To qualify for admission to the All India Diploma Examination in Architecture, candidates shall have to work for three years in an Architects office approved by the Board after passing the Intermediate Examination and on production of proof of having worked for that period and on production of testimonies.

Engineering.

4. The experts held very divergent views. One view was that private studies should be encouraged but before allowing such employees to take the final examination of the Board, their fitness for this stage should be tested either by means of some prescribed records of work and study and/or by their having passed graduated stages of examinations leading to the final stage.

There was a second school of thought who held the diametrically opposite view namely that admission qualifications and training of the two categories were entirely different and that all diploma holders inspite of their long service would not come up to the degree standard as they had been out of touch with the subjects required for the degree courses for a long time. It was suggested that diploma-holders should take one of the recognised examinations of City and Guilds of the Final Grade or the Associate Membership Examination of the Institution of Engineers (India). However, in the case of Institution of Engineers (India) the difficulty was that the person should be under 28 years) of age (there was a proposal to raise the age limit to 35 years). The All India Council for Technical Education should not become an examining body only since it was chiefly concerned with laying down a suitable standard of studies for engineering institutions.

Yet another view was that the most important points in connection with University degree or All India Diploma courses were systematic instruction and broad-based education and it would not be right to award degrees or All India Diplomas to those who did not satisfy these. Likewise Diploma-holders could not pass the practical examinations without attending an institution and it would not be right to award university degrees or All India Diplomas without these practical examinations. The request of the diploma-holders indirectly brought out a deficiency in this country which should be removed. There were several leading technical colleges in England that offered through evening classes, opportunities for education of the university standard to capable and ambitious youngmen who could not afford full time university education. The evening classes of technical institutions in England had supplied to that country a large number of technical personnel of grit and determination than the University Graduates, and England was the richer for it. India had neglected this source of supply of higher technical personnel. All technical colleges in India should therefore have evening classes for capable and ambitious youngmen, who owing to thie poverty could not afford a University Education. The Central Public Works Department should provide facilities to their employees to attend such classes.

Further the Provincial Governments should be advised to offer scholarships to a limited number of candidates who passed with distinction in the diploma examinations conducted by the respective provinces and make arrangements for their going through a full time course in the college under them.

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200 Copies. Dlh.

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Annexure 11 — Third Meeting.
Item 9 of Agenda.

All India Council for Technical Education

M E M O R A N D U M

Organisation of Apprenticeship Training - Training in Tele-Communications Engineering.

The Central Advisory Board of Education at its 14th meeting held in January 1948 decided to refer the question of Apprenticeship Training raised by the Madras Government to the All India Council for Techical Education in the first instance. The memorandum received from the Government of Madras on this subject is reproduced below.

Memorandum by the Government of Madras.

" In these days when there is a dearth of technical men and the Government of India have appointed a Scientific Man-power Committee to survey the whole position, it will not be necessary to stress the need for the practical training of technical men. Although there is a clear necessity for a close and continuous co-operation and contact between institutions of technical trainong on the one hand and industry and trade on the other, yet past experience has proved again and again that except for a few enlightened managements, the majority of industrial and commercial firms are unwilling to take apprentices for training or promise but limited support to such a proposal. This is the considered opinion of the Technical and Industrial Education Committee appointed by the Government of Bengal who reported in 1945 that from the replies received to the

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questionnaires they sent it appeared that conditions had not changed much till then. Conditions may no doubt be expected to be different with the coming into existence of a Free India, but it is doubtful whether there has been a real change of heart in the matter from the point of view of commercial firms.

2. In this connection it should however be noted that even in England about 40 years ago industrial concers were unwilling to take apprentices and charged heavy premia for taking them. But later on the value of apprenticeship as an asset to the country has come home to them and nowadays industrial concerns regularly take apprentices and pay them as much as 50 sh. per week for the work that the apprentices do when put in responsible charge.

3. Even in advanced America though in its own plants, such as Navy yards, arsenals and engraving establishments the Federal Government had been training apprentices for many years, it was only in 1937 that Congress decided by legislation that the training of all-round skilled workers is a matter of concern to all the people. Now the Apprentice Training Service of the Department of Labour arranges with the various commercial firms the training of apprentices for periods of a minimum of 4,000 hours (corresponding to 2 years) to a maximum of 8,000 hours (or 4 years) and the firms co-operate whole heartedly in this work. The apprentices trained in any particular firm are free to get employed in any other firm after the training though in most cases they get absorbed in the firm where they had the training.

4. The most remarkable fact that we have to face is that in India although Government departments, railway workshops and other public utilities, do take a limited number of apprentices, these apprentices have again and again complained that they are not put in responsible charge of the machinery. It is probable that the Officers directly in charge of such machinery are reluctant to put apprentices in sole charge of such especially when they feel that such apprentices, not being paid any stipend even, may not feel the responsibility which they themselves have got to face if anything goes wrong. Secondly, most of the commercial firms in India are very small in comparison with the firms in the West and they cannot afford to waste the productive time of the small number of their machines on students who, they believe, have to be taught from the very beginning the need for minimising wastage of materials and the time of production and also for giving quality to the article produced by working to precision limits. That is why they consider in the words of the Bengal Report that "the sandwich system of training in which a batch of students are pushed in and taken out of factories from time to time for the purpose of giving practical training has a great dislocating effect" on their production. If, however, students have already been trained in educational institutions in methods of commercial production, the training given in firms is continuous and each of the trainees work in the factory for a sufficiently long time, the managements of such firms can put in such trainees for the work of the leave reserve men whom they would other wise have to engage.

5. In order that co-operation between business firms and educational institutions may be made greater, the Bengal Report has made annumber of suggestions all of which will have to be put into practice.

6. The most important means of bringing about this desirable end is by legislation which is being increasingly taken up by the less advanced countries. One of the most important features of the legislation is the raising of a special tax in order to promote vocational education. In some of the countries this is what is being done. A tax of 1 per cent is levied on wages and salaries paid in all industrial establishments which employ more than 5 wage-earning employees exclusive of the members of the family of the employer; this tax together with other sums set aside annually for this purpose in the National Budget together with donations and requests from private individuals or private firms etc. and the proceeds of all fines imposed are all collected quarterly and put into an Apprentice Training Fund. The apprenticeship tax is payable likewise by Government workshops and factories and by workshops and factories belonging to autonomous institutions or under the jurisdiction of a local board or municipality. Rules are set forth in the legislation that if proper arrangements are made by a firm for maintaining apprentice training courses, a certain portion of the tax levied is remitted.

7. A special executive body looks after the administration of the apprentice courses to meet the needs for the various trades and drawn by special committees under the approval of the Ministry of Education. It arranges also for the grant of stipends to the trainees and bonuses and subsidies towards the

maintenance of apprenticeship courses organised by industrial institutions. It also looks after general welfare of all the apprentices by having under it an employment Bureau and inspectorate which have definite powers under the legislation for doing all that is necessary to see that the apprentices are trained properly and their social welfare is looked after.

8. From the above it will be seen that it is necessary for Government Departments both Provincial and Central, first to set an example by giving stipends to every apprentice trained in their own workshops or factories or similar places. It is regrettable to find that even after August the 15th, the Government of India regretted their inability to accept the proposal of the Provincial Government to give practical training facilities for the Electrical Communication Engineering students

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in the All India Radio - (vide; letter from the Government of India.)

9. Secondly, if early industrialisation of the country is to become an accomplished fact, it would appear that the best way would be for the Government of India to deal with the question of Legislation expeditiously. However, it may also be considered whether the Provinces also should not be given discretion to pass legislation so far as their sphere is concerned."

PCS/C.200
N.Delhi, 10/3/48.

Annexure 12.
Item No.10 of Agenda.

Third meeting.

Sl India Council for Technical Education

SUMMARY OF RECOMMENDATIONS OF THE REORGANISATION COMMITTEE OF THE INDIAN SCHOOL OF MINES, DHANBAD.

Introduction.

(1) The Reorganisation Committee held nin meetings. After inspecting the School, taking evidence from the staff and the students, and holding a discussion with representatives of the mining industry, the Committee has made the following recommendations. (Paras. 3 & 6).

Name of the School.

(2) To indicate more correctly the scope of instruction provided by the School, its name should be changed to "The Indian School of Mines and Applied Geology". (Para. 17).

Extension of Scope.

(3) To cope with the increased demand for mining engineers and geologists, the annual intake should be increased gradually from the present total of 24 to a total of 60, comprising 48 mining and 12 geology students. (Para. 19).

(4) While additional diploma courses for subjects other than mining and geology need not be instituted, certain improvements should be effected in the courses of instruction by giving greater prominence to certain subjects, e.g., Fuel Technology, Metallurgy, Refractories, Ceramics and Geophysics. (Paras. 16 & 26).

(5) Revised curricula for Geology and Mining have been drawn up and are given in Appendix III and IV. The Principal, in consultation with the Professors, should prepare the detailed syllabuses. (Paras. 27 & 28).

(6) Having regard to the more comprehensive training now required, the three-year Certificate course should be discontinued, and all students should be required to take the full four-year course leading to the granting of the Diploma in either Mining Engineering or Geology. (Para. 26A (2).)

(7) Government should provide facilities for research by the staff, and give financial assistance if necessary. (Para. 73).

Admission Test.

(8) The present system of recruitment of students through an Entrance Examination should continue (Para. 21).

(9) A candidate who sits for the School Entrance Examination should have taken both Physics and Chemistry in his Intermediate or equivalent examination (Para.26A(4).)

Practical Training.

(10) The present pre-first year practical training — should be discontinued, and should be replaced by a two-months period of practical under-ground training given early in the First Year course under the supervision of the School staff. (Para. 35).

(11) The length of the vacational practical training given during each of the first three years should be for at least two and a half months, and such training should be given under the general guidance of the School staff. (Para. 33(ii)&(iii).)

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(12) The scheme of post-gradute training proposed by the Committee, which should enable graduates of the School to pass the competency examinations prescribed under the regulations without difficulty, should be brought into force as quickly as possible. The scheme is estimated to cost Rs. 2.63 lakhs per annum which should be shared equally by Government and the Industry. (Para. 39).

Statutory Recognition and affiliation.

(13) The Committee do not advise giving statutory recognition to the School Diploma. The case for granting exemption to the Diploma-holders from appearing in some parts of the competency certificate examinations and for giving some weightage under the Coal Mines Regulations should be examined. (Para. 45).

(14) The affiliation of the School to a University is not considered to be urgent. (Para. 49).

(15) Holders of the School Diploma should be allowed to sit for the various competitive examinations held by the Federal Public Service Commission for the Engineering and allied services under the Central Government. (Para. 50).

(16) The Diploma of the School should be recognised both by Indian and foreign Universities as equivalent to the M.Sc. degree. Necessary steps for the purpose should be taken with the appropriate authorities forthwith. (Para. 51).

Staff.

(17) The staff shown in Appendix VII will be required to implement the reorganisation proposed (Para.58).

(18) The Principal should not also act as the Head of a Department, the Department of (a) Coal Mining and Mining Machinery and (b) Metal Mining and Surveying should be amalgamated; and the Department of Physics and Mathematics should be brought within the scope of the Department of Engineering. (Para.59).

(19) The Principal should be a mining expert with considerable administrative ability and teaching and research experience. His status should correspond to that of the Chief Inspector of Mines in India. (Para. 60).

(20) The existing method of recruitment of staff through the Governing Body may continue, but care should be taken to have the vacancies widely advertised, and T.A. should be provided for candidates invited to come for interview. (Para. 61).

(21) Professors and Lecturers should be encouraged to go on study leave as and when convenient, to keep abreast of modern developments, and the concessions admissible under the Fundamental Rules should be extended to them.(Para.64)

(22) The terms and conditions of appointment of the School staff should be clearly prescribed. (Para 62).

(23) The advice of the Director-General, India Medical Service should be taken regarding the appointment of a Medical Officer for the School and the re-equipment of the hospital (Para. 66).

(24) The suitability of the present incumbents for the posts held by them should be reviewed. (Para. 72).

Scales of Pay.

(25) In fixing the scales of pay for the staff

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given in Col. 3 of the statement in Appendix VII, the qualifications required for the different posts, the duties and responsibilities attached to them, and the conditions prevailing in the Industry have been taken into account. (Para.70).

(26) The School's Diplomas are equivalent to M.Sc. degrees of Indian Universities, and its Departments correspond to University Departments. The scope of the School's activities is now to be enlarged. It would therefore be inappropriate to apply the Delhi Polytechnic scales of pay to the Indian School of Mines, as recommended by the Central Pay Commission, and the scales similar to those suggested by the Committee should be adopted. (Para. 70A).

(26-A). In respect of pay, the office staff of the School of Mines should be treated on a par with that of the Chief Inspector of Mines in India. (Para. 70A).

Accommodation and Equipment.

(27) To provide for the increased annual intake proposed, the existing School and Hostel buildings will have to be nearly doubled, and this is expected to cost about Rs. 13.2 lakhs. It will also be necessary to acquire two adjoining plots of land on the north-east and west of the existing estate. The Central P.W.D. should be requested to complete the School and Hostel extensions with all external services, and to acquire the two plots of land referred to, before the middle of June 1948. (Paras. 76-77, 79-81 & 95(b).)

(28) All the School staff, superior and inferior, should be provided with residential accommodation on payment of rent under the usual rules. This is estimated to cost about Rs. 9 lakhs, and the construction should be completed in the course of the next two or three years. Measures to improve the existing residential quarters and sanitation should also be taken in hand. (Paras. 82 & 95(b).)

(29) The necessary additional equipment listed in Appendix X, costing approximately Rs. 4 lakhs, and the additional furniture and furnishings given in Appendix XI, costing about Rs. 2 lakhs, should be purchased within the next two years. (Paras. 84 & 85).

(30) Facilities for games and sports are inadequate, and a gymnasium and more tennis courts should be provided. (Para. 29).

Co-operation with the Industry.

(31) There should be greater co-operation between the Mining Industry and the School. (Para. 86 & 87).

Governing Body.

(32) The Governing Body should be reorganised as an Advisory Council, with its own Executive Committee. The Advisory Council will concern itself generally with questions of policy; while the Executive Committee, which will be a sub-committee of the Advisory Council and consist of technical experts and representatives of the Industry, will deal with matters of administration. (Para. 90).

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Evening Mining Classes.

(33) The question of bringing the Evening Mining Classes under a central authority, as suggested by the Industry, should be examined in consultation with the Governments of Bengal and Bihar, and with the Government of India Department concerned. (Para. 98).

Mica Mining Classes.

(34) It is not considered feasible to organise Mica Mining Classes at the Indian School of Mines. Such cases may perhaps be better arranged at or near Kodarma in consultation with the Mica industry. (Paras. 100-102).

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Annexure 13
Item No. 11 of Agenda S. No. (1)

THIRD MEETING
All India Council for Technical Education

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MERCHANT NAVY OFFICERS TRAINING COMMITTEE
MINISTRY OF COMMERCE

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
MINISTRY OF COMMERCE,
NEW DELHI.

SUBJECT.—*Merchant Navy Officers Training Committee.*

SIR,

We have the honour to invite a reference to your letter No. 123-M.I(6)/47, dated the 23rd October, 1947, and to state that at present we are engaged in the examination of the various issues arising out of the terms of reference of the Committee but have not been able to come to definite conclusions in regard to all of them yet. We have, however, come to some conclusions in regard to steps which can be taken by the Government of India without awaiting the final results of our deliberations. We have, therefore, decided to submit to Government the following interim observations and recommendations.

2. Briefly, the problem before us is to make recommendations for the expansion of permanent training facilities with a view to the production during the course of the next 5 to 7 years of such a number of certificated Deck and Engineer Officers as would be adequate to man about 2,000,000 tons of shipping. While it is not possible to give at this stage an exact estimate of the number of officers that will be required for the purpose, it is considered that at the very least about 1,500 certificated Deck and 1,000 certificated Engineer Officers in addition to those that would have been produced by the present facilities, will be required. It is important to point out here that it will not be possible by any means whatsoever to produce more officers by means of an expansion of the Dufferin than are being produced at present within the course of the next 6—8 years and this for the following reasons.

3. The qualifications and sea-time required of a candidate for (a) a Second Mate's (foreign going); and (b) Second Class Engineer's Certificate of Competency Examinations are:

(a) 4 years of approved service at sea (time served in a training ship after the age of 14 years up to a limit of 2 years counts as half sea service i.e. no length of training ship service is allowed to count for more than one year at sea);

(b) 4 years of satisfactory service in an approved workshop and 1½ years approved service as a junior engineer in a foreign going steamship (1/3rd of the time served in a training establishment up to a maximum of one year is counted towards workshop service).

In both the above cases, however, at least one more year should be added on account of the instructional period necessary prior to sitting for the examinations, possible failures and other delays contingent on the sea service.

The minimum sea service which a candidate must have to sit for First Mate's Examination (foreign going) is 5½ years and for Master's Examination (foreign going) 7 years. For First Class Engineer Certificate a further 1½ years sea service is required after obtaining Second Class Engineer Certificate. In these cases also further delay in obtaining the certificates must be expected due to the reasons mentioned above.

It will, therefore, be clear that no appreciable increase in the number of certificated officers can be achieved for at least 6 to 8 years from the time of the expansion of the pre-sea training facilities and that for obtaining more officers in the meantime some other steps will have to be taken. Of this we shall say more below.

4. We have so far examined in a preliminary way the question of increasing facilities for pre-sea training. We have discussed this matter with shipowners, Merchant Navy Officers and others interested, and have come to the conclusion that in India where there is no strong maritime tradition yet among the educated young men, it is almost essential to give those desirous of a merchant navy career an idea of sea life before they are actually sent out to sea and that this can best be achieved by sending them to pre-sea establishments. While the need for the expansion of pre-sea training facilities is thus established, we have not yet come to any conclusions in regard to the nature of the expanded facilities nor as to their location. In this connection we considered whether it would be possible for the Dufferin to take more cadets immediately. We have found, however, that in no case will it be possible for this training ship to accept more than 10—15 extra trainees. In the circumstances it is obvious that it will be necessary to set up other training ships or shore establishments at suitable places, but it is apparent that because of the difficulty of finding suitable ships or sites for shore establishments and the necessity to proceed carefully with the plans for setting up permanent establishments, considerable time must lapse before the pre-sea facilities can be adequately expanded.

5. In view of the difficulties mentioned above, we have considered whether in the present emergency—and the present situation in which the lack of qualified officers may prove to be a serious bottle-neck in the way of the expansion of India's mercantile marine, must be described as an emergency—efforts should be made to send suitable young men who possess prescribed minimum

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educational qualifications to ships and approved workshops as direct apprentices i.e. without sending them first to a pre-sea establishment. In this connection we would like to point out that in most maritime countries a large proportion of merchant navy officers go to ships and workshops directly from their colleges without ever having been in a pre-sea establishment and that the adoption of this method in India will, therefore, not be a novel feature. We must, however, also point out that in all these countries there is a strong maritime tradition and that, therefore, the pre-sea training in these countries is not as essential as it is in India where such a tradition is not nation wide. In normal circumstances, therefore, we would not be inclined to recommend the adoption of the direct apprenticeship method on a wide scale. However, in the present situation we feel that the Government of India in conjunction with the interests concerned must, pending the expansion of pre-sea facilities, concentrate on sending boys directly to ships and workshops. It is important to mention here that the point made above has already been realised by some of the shipping companies and workshops who have taken steps to take more direct apprentices. We discussed this matter at a Conference with shipowners' representatives in Bombay and found that while one or two companies were willing to carry the above suggestions into effect by taking more direct apprentices, others pointed out the difficulties caused by lack of accommodation and life saving appliances. While we are fully aware that considerations of accommodation and the requirements as to life saving appliances may impose limitation on the number of extra apprentices that can be carried on board ships, we have no doubt that if shipping companies carried out suitable alterations and adaptations in the accommodation now available, and obtained, if necessary, with Government assistance additional life saving appliances, the capacity for carrying extra apprentices could be increased appreciably.

6. The two main problems in this connection, therefore, are: (i) the prescription of educational and other requirements which candidates for apprenticeship must conform to and their selection and allotment to the various shipping companies and workshops; and (ii) finding accommodation for these apprentices on board ships and placing them in approved workshops. As regards (i) we recommend the standardization of the pre-entry conditions for all shipping companies and approved workshops in India. We also recommend that the selection of candidates must be made on an all-India basis by a central organisation which should include representatives of the interests concerned. These suggestions were discussed with shipowners' representatives in Bombay and were unanimously accepted by them. In paragraph 14 below we have recommended the appointment of a Merchant Navy Training Board in India. One of the functions of this Board will be to prescribe the conditions, make the selections and allot apprentices to the various shipping companies and workshops. As regards (ii), we understand that the Government of India have already addressed various shipping companies and workshops with a view to finding out if more apprentices can be accepted. Further steps in this

regard must depend on the response to the suggestion contained in the above communication of the Government of India. If the response is satisfactory, the shipping companies and workshops may be asked to indicate their approximate requirements so that the Merchant Navy Training Board may go ahead with its task. If, however, the response is not satisfactory, it may be necessary for Government to convene a Conference with shipowners with a view to a direct discussion of this question. We are not yet in a position to make any further observations in this regard and we propose to discuss this question with shipowners' representatives in Calcutta also in the near future. Meanwhile it is requested that the Government of India will inform the Committee of the nature of response they have had to their communication with a view to enabling us to finalise our recommendations.

7. We have recommended above that in the present circumstances as large a number of direct apprentices should be sent to ships and workshops as is compatible with the requirements of accommodation and life saving appliances with a view to enabling these young men to get the requisite workshop and sea time as quickly as possible. We understand, however, that already there are a large number of potential merchant navy officers who possess the requisite workshop and sea experience and are preparing for their professional examinations. From this source an appreciable number of officers could be made available to India's mercantile marine within the period of a few months if only these candidates could be coached up properly for their examinations. We have gone into this problem in some detail and have found that the preparation of the candidates for professional examinations is so poor that an inordinately large number of failures occur at present and that even for such preparation far too much time is spent. This unsatisfactory state of affairs is, in our opinion, directly due to the fact that skilled pre-examination technical instruction is not available to the candidates. We, therefore, strongly recommend that a Nautical and Engineering College should be set up at Bombay as soon as possible for coaching up candidates preparing for professional examinations. In addition to providing such pre-examination coaching facilities, another important function which this institution should, in our opinion, perform in due course is to provide part-time instruction to workshop apprentices. We are informed that at present these apprentices, during the period of their workshop time, are not under proper supervision nor are they given proper theoretical instruction, with the result that ultimately there are a large number of failures at professional examinations. We consider that the proposed establishment should meet the requirements of these apprentices also. A similar establishment may have to be set up at a later date in Calcutta when experience has been gained in the working of the Bombay establishment.

8. It is necessary to mention at this stage that the Maritime Union of India—the only Officers Trade Union in the country—and the Dufferin Old Cadets Association have both already realised the necessity of establishing

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such a college and have prepared certain schemes. The Maritime Union of India has started some coaching classes and the Dufferin Old Cadets Association has a plan to set up a Training College in the four rooms in the Merchant Navy Officers Club building made available to this Association by Government. In view of the preparations that have already been made by these organisations, we considered whether the Government of India should assist one or the other or both these associations in their attempt to establish a private Nautical and Engineering College or whether such an institution should be run by a more or less autonomous Board of Management under Government's supervision and with Government's financial assistance. We have examined the comparative merits of these two alternatives and have come to the conclusion that the officers associations in their present state of development and also with their present financial resources will not be in a position to run an efficient training college on the requisite scale. If it were merely a question of finance, the difficulty would have been overcome by making the necessary finances available to them from other sources, for instance, Government, shipowners etc. We feel, however, that an institution of this kind must be above the politics of rival Associations of Officers if the standard of efficiency which we have in view is to be attained. We are, therefore, against the adoption of the former alternative. In this connection we have also examined the possibility of making arrangements for special courses in the existing technical institutions or in the Universities. While there will be no difficulty in the inauguration of such special courses in these institutions with Government assistance, we are of opinion that, at the present stage, instruction of a highly specialised kind which must be given to candidates for professional examinations for the sea service cannot be satisfactorily provided in an institution whose main function will be to provide for instruction of a different kind. We think that even if such special courses should be inaugurated, the Government of India would have to provide assistance on such a scale as would provide the finances for a separate and independent establishment. We must stress that unless the proposed coaching facilities provide instruction of a high standard, the end in view is not likely to be achieved. We have, therefore, no doubt that such facilities must be provided in a separate College run by a Board of Management under Government supervision. The composition of this Board should be somewhat as follows:

1 Representative of the Government of India (P.O.M.M.D.)

2 Representatives of the Maritime Union of India

1 Representative of the Dufferin Old Cadets Association

2 Representatives of the Shipping Companies

1 Representative of the Government of Bombay

Captain Superintendent of the College—*Secretary.*

The Principal Officer, Mercantile Marine Department, should be the Chairman of the Board as also its Principal Executive Officer. We are, however, of opinion that before taking a decision in regard to the composition of the Board of Management, the Government of India should invite the representatives of the Maritime Union of India and the Dufferin Old Cadets Association who have, as mentioned above, already taken some steps towards setting up some sort of establishment, with a view to a discussion of the final composition of the Board. To this Conference representatives of shipping interests and of the Bombay Government should also be invited.

9. While the Board mentioned above will manage the proposed training College at Bombay, we visualise that in the near future it will be necessary for the Government of India to set up a Central organisation to supervise and co-ordinate the activities of all the training establishments whether at sea or at shore. The advantages of such an organisation are obvious and we would like to mention here that similar organisations exist in almost all the leading maritime countries of the world. For instance, in the U.K. a Merchant Navy Training Board has been established for the purpose. When such a Training Board has been established, one of its functions will be to supervise the work of the Bombay Board of Management as of others that may be set up at other places to run similar training establishments.

10. With a view to recommending a suitable site for the proposed college, we visited several places at Bombay and made enquiries unofficially from the officers of the Bombay Government and also inspected the Merchant Navy Officers Club building at the Azad Maidan. We were most favourably impressed with the situation, accommodation and amenities of the Merchant Navy Officers Club building. This building with slight alterations would be admirably suited for the purpose of the college. We, therefore, strongly recommend that the arrangements by which this building has been lent to other departments should be at once rescinded and the whole of the premises allocated for the purposes of the proposed Nautical and Engineering College.

11. The proposed College should have coaching facilities both for Deck Officers and Engineer Officers and for this purpose it should be suitably and adequately equipped and staffed. A schedule of requirements for the Nautical Section of the College has already been drawn up by the Nautical Adviser to the Government of India. We have examined this schedule and are of opinion that as slightly modified by us, it should be accepted by Government and the Nautical Section of the College brought into being as soon as possible. The schedule as amended slightly is attached as a separate paper. A similar schedule for the Engineering Section of the College is under preparation and will be submitted to Government as soon as it is ready.

12. The finance for equipping and running the college should in our opinion be provided by shipowners and the Government of India. We do not propose to make any recommendation in regard to the actual proportion in which

the cost should be shared as between the two parties for we feel that this is a matter which can best be settled by mutual discussion between the shipping interests and Government both of whom will benefit by the existence of an efficient cadre of mercantile marine officers. It is suggested that in regard to the distribution of the contribution of shipowners *inter se* the tonnage owned by each company would provide a good basis. We, however, recommend that pending a discussion of the financial question with the shipowners, the Government of India should assume responsibility for providing the requisite finances initially. In particular, they should assume responsibility for—

(a) the salaries of the staff of the Nautical Section of the College, Bombay, and their Travelling allowances etc.;

(b) the cost of books, instruments and equipment required;

(c) the cost of extra furniture and fittings required to adapt the Merchant Navy Officers Club for use as a Nautical and Engineering College;

(d) the cost of any alteration in the building that may be found necessary.

13. As regards the staff for the Nautical Section detailed proposals have been made in the paper attached to the report. We would like to urge here that a Captain Superintendent for the College should be appointed as soon as possible. The entire responsibility for organising the initial steps for the running of the College will lie on him and no time should be lost in getting a suitable man for the appointment. We also recommend that the lecturer in mathematics referred to in the schedule of requirements should be appointed as soon as possible and sent to the U.K. for spending 4-6 weeks at a Nautical College—preferably the School of Navigation attached to University College, Southampton, with a view to getting an idea of the manner in which mathematics should be taught in a Nautical College. It is suggested that with a view to saving time, he should travel by air both ways.

14. In paragraph 6 above, a reference was made to our proposal to the establishment in India of a Merchant Navy Training Board along the lines of similar organisations in the U.K. and other maritime countries. This Board should include representatives of the Government of India Ministries concerned (Commerce and Education), representatives of Officers' Association and seamen's unions, representatives of Training Establishments and the representatives of shipowners. Full details of the Merchant Navy Training Board in the U.K. have been asked for and on receipt of this specific recommendations as to the composition and functions of the Board proposed for establishment in India will be submitted. Broadly, the functions of this Board would be to advise Government on all matters connected with the training of Merchant Navy Officers and Ratings, standardization of the conditions of entry to the existing and future training establishments and to ships and workshops in the case of direct apprentices, supervision and co-ordination of the activities of

training establishments like the Dufferin and others that may be established in the future, revision of the curriculum of these establishments from time to time as may be necessary, etc. This Board will be in the nature of an all India Board of Management meeting at certain intervals, about once a quarter. It will function through its own Secretariat, the strength of which will depend upon the nature of functions that are ultimately assigned to this Board. We hope that the requisite information about the U.K. Board will be in our hands in the very near future and that we will be able to finalise our recommendations in this regard for submission to Government some time in the month of January. Meanwhile the above has been mentioned only with a view to giving Government an idea of our proposals in regard to the Board.

15. Mr. M. A. Master, a member of the Committee, has not been able to give his views on all the problems considered above nor has he been able to sign the Report, due to his absence from India. One of us (Captain Davis), however, had the benefit of his advice on several matters in a series of discussions at Bombay prior to his departure for Geneva. On Mr. Master's return, this Report will be placed before him and if he has any additional observations to make, they will also be submitted to Government.

H. L. DAVIS,
Member.

C. P. SRIVASTAVA,
Secretary.
The 20th December, 1947.

S. R. SEN GUPTA,
Member.

SCHEDULE OF REQUIREMENTS FOR A NAUTICAL AND ENGINEERING COLLEGE AT BOMBAY, COMPILED BY THE NAUTICAL ADVISER TO GOVERNMENT

Preliminary Notes

(a) In the scheme that follows, it is assumed that the Merchant Navy Officers Club, Bombay, will be acquired and adapted as the Nautical and Engineering College, Bombay.

(b) Such minor amendments to the Nautical Advisor's Scheme as have been inserted relate principally to the pay of the staff. Their scales of pay have been suggested provisionally. It is recommended that these scales should as far as possible be brought to the level of the scales of pay of officers belonging to the Mercantile Marine Department.

(c) A detailed scheme for the Engineering Section will be compiled by the Committee and submitted as soon as possible. The estimate below does not include the cost of the staff or equipment of the Engineering Section.

(d) The cost of the furniture and equipment is only on approximate estimation. Much of this work will have to be put out to contract.

(e) Dearness and Compensatory Allowances etc. have not been included in the list of salaries as the Committee has no means of computing these items.

(f) It is presumed that the Captain Superintendent and some members of the staff will live in the College premises.

(g) With reference to appointment No. 1 in the Nautical Section, it is suggested that this Officer should be preferably recruited in India. If found suitable, he might be sent to the U.K. to qualify as Extra Master under the Scholarship System.

(h) It is suggested that the Nautical and Engineering College should have residential accommodation for such students as may require it. The arrangements for and salaries of the catering staff have not been included in the estimates.

(i) It is presumed that the furniture already in the Merchant Navy Officers Club will be available for the use of the proposed Nautical and Engineering College. An estimate of the cost is given in summary below, but this does not include the cost of staff, equipment and books etc. for the Engineering Section, which will be submitted later.

Capital Cost

	Rs.
Fittings and equipment	21,200
Text books and publications for the Issue Section of the Library	8,000
Reference Library	2,000
TOTAL	31,200

Recurring Cost

	Rs. p.m.
Initial Salaries	3,350
Stores	300

Staff

	Salary Rs.
A Captain Superintendent	1,500—50—1,800

Qualifications—An Extra Master with command if possible, as an Extra Master, trained in teaching. Capable of lecturing in Naval Architecture, Meteorology, Seamanship, Marine Law, Nautical Astronomy.

The holder of the appointment will be required to lecture in the subjects specified above.

Nautical Section

	Salary Rs.
1. LECTURER IN NAVIGATION AND SEAMANSHIP . .	600—50—1,150
Qualifications—Master Mariner. Should be required to obtain an Extra Master's Certificate in a reasonable time.	
2. LECTURER IN MATHEMATICS AND SCIENCE . . .	500—25—800
Qualifications—M.Sc. in Mathematics with Astronomy as a special subject.	
3. SIGNALLING INSTRUCTOR	150—10—300
Qualifications—An Ex Chief Yeoman of Signals R.I.N. (Pensioner).	
4. CLERK TO CAPTAIN SUPERINTENDENT. . . .	100—5—150
Qualifications—Permanent Civil Servant.	

GENERAL.

1. *Caretakers* (2)	45×2=90
Qualifications—1 Ex Seaman, Merchant Navy. 1 Ex Fireman, Merchant Navy.	
2. *Office and School Cleaners* (3)	30×3=90
Salaries .	3,030
Visiting Meteorologist .	320
Initial Salaries .	3,350

Accommodation for Staff—	*Cost of equipment* Rs.
1. A Master's room for lecturers	800
4 desks, chairs and 4 easy chairs.	
2. A College Office for conducting the business of the College.	300
Desk, chair and filing cabinets.	
TOTAL .	1,100

Classrooms—

Required 4.

Nos. (1) Masters and First Mates Foreign-going.

(2) Second Mates, Foreign-going and Home Trade Masters.

(3) Fishing Certificates, Serangs, First and Second Class Inland Steam.

(4) Lecture Room for Rule of Road, Seamanship, Marine Law, Masters' Business, Compass Syllabus, etc., and Signals.

Students Common Room—A room should be made available.

Students Reading Room—A quiet room should be made available.

Fittings for Classrooms—

	Estimated cost Rs.
Rooms (1), (2) and (3)—	
Each to be equipped with—	
Raised Platform, 10″ High 10′×6′	100×3=300
Desk and Chair for Lecturer	150×3=450
Blackboard, wall fitted, with rack for chalk and Duster	130×3=390
20 Students desks and chairs, Desk 2′×3′	800×3=2,400
4 Chart Tables each with 4 shallow Chart Drawers. Each table to have a pair of parallel rulers, and dividers	800×3=2,400
1 Large Boom-case	100×3=300
TOTAL	6,240
Room (4)—	
To be fitted as (1), (2) and (3) but with larger desk for Rule of Road Lecturers, say	3,850
No Chart Tables.	
In addition the following equipment to be supplied :—	
Seamanship Room equipment—	
A full set of Rule of Road Models	260
Various samples of ropes—yarn, etc.	..
All types of blocks in miniature	300
A model telescopic mast, 4-foot high	250
Model Life-boat and sails, 4-foot high	400
Line carrying Apparatus (Schermmly)	400
A model of Beeches Buoy	200
Morse Signalling Apparatus	200
20 Sets of Portable Signal Masts for candidates decks	400
30 Sets of Semaphone Flags	150
TOTAL	2,560
Ship Construction (Cargo)—	
A model half section of a Cargo ship showing framing and double bottoms, with hatchways and stiffeners etc., showing compensation for loss of strength in hatchways	500
Ship Constructions (Tanker)—	
A model half section of a ship showing tank bulkheads double bottoms. With hatchways and stiffeners, etc.	500
TOTAL	1,000

Instruments—	Rs.
Sextants (2)	800
Mercurial Barometer (with Gold Slide). Gold is the name of Inventor	350
Aneroid Barometer	100
Hygrometer	70
Station Pointers (5)	375
TOTAL	1,695

Compass Syllabus—	
2 Deviascopes with Accessories	2,800
1 Complete Standard Compass with Kelvin Card	1,000
1 Liquid Compass Bowl	300
1 Kelvin deflector	450
1 Vertical force instrument	200
TOTAL	4,750

Courses and Lectures from Sources other than the College

1. *Meteorology*—

The Meteorological Office, Colaba, should be asked to allow a Meteorologist to attend the College once or twice a week to deliver a lecture, A.M. and P.M. on each day. This should be arranged in the very near future. Arrangements should be made for students to visit the Observatory.

Salary Rs. 20 per lecture.

2. *Radar*—

It should be possible at a later date to organise courses for Merchant Navy Officers by arranging with the Royal Indian Navy—on the lines adopted in the U.K.

3. *Course in Care and Maintenance of Gyro Compass*—

By arrangement with the Royal Indian Navy.

Recreation—

I suggest part of the Maidan adjacent to the College be available for students, and/or the Bombay Gymkhana Club be approached for facilities.

A sailing craft should be obtained for students.

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Tuition Fees

First Fees to cover a period of 3 months even if period are broken.

	Fees for period of 3 months	Monthly rate of fees after first 3 months
	Rs.	Rs.
Foreign Going—		
Master	60	20
Mate	45	15
Second Mate	30	10
Home Trade—		
Master	45	15
Mate	30	10
Fishery Certificate—		
Skipper	45	15
Second Hand	30	10
Inland Steam Certificate—		
Serang	20	5
First Class	15	5
Second Class	10	5

Income from Fees.—This is difficult to estimate. Estimated at approximate Rs. 1,000 p.m.

This is sure to increase when the College becomes known and results are shown.

	Rs.
10 Copies of Plane Spherical Trigonometry (Goodwin)	60
10 Copies of Elementary Algebra (Hall and Knight)	60
10 Copies of Euclid Books I to VI and XI (Hall and Stevenson)	60
10 Copies of Elementary Science (Briggs)	60
4 Copies of Signal Letters, British Ships	60
20 Copies International Code of Signals, Volume I	1,000
2 Copies of International Code of Signals, Vol. 2	100
1 Copy of Lloyds Rules and Regulations	Not known but approx. Rs. 300.
5 Copies of the Admiralty Manual of Myroscopic Compass	
2 Copies of West of England (P. and I. Society) Handy Book for Shipowners and Masters	
2 Copies of Economic Geography (Mc. Tarlane)	
4 Copies of Barometer Manual	
2 Copies of Physical Geography of the Sea	
4 Copies of a Handbook of Weather, Currents and Ice for Seamen	
2 Copies of Merchant Shipping Act	
2 Copies of Indian Merchant Shipping Act	

	Rs.
B. O. T. Publications on Carriage of Grain, Explosives, 6 monthly copies of Notices to Mariners.	
Supply of ink, inkpots, blotting papers, pens, pencils, erasers, and Duplicates of Examination Answer Papers for candidates to work on.	
TOTAL .	7,200
Say . .	8,000

List of Publications required for Nautical Section of Proposed Nautical and Marine Engineering College, Bombay

Item	*Estimated cost* Rs.
80 Charts	400
30 Parallel Rulers	600
30 Dividers	150
30 Protractors	60
20 Copies of Noties Nautical Tables	400
10 Copies of Inmans Nautical Tables.	200
10 Copies of Burtons Nautical Tables	130
60 Copies of the Nautical Almanac, 1946	210
60 Copies of Admiralty Tide Tables, 1946 (A)	200
60 Copies of Admiralty Tide Tables, 1946 (B)	360
60 Copies of Indian Ocean Tide Tables, 1946	180
10 Copies of Admiralty Tide Tables, Part 2, Latest Edn.	30
10 Copies of Admiralty Manual of Navigation, Vol. I	60
10 Copies of Admiralty Tide Tables, Part 3, Latest Edi.	30
10 Copies of Admiralty Manual Navigation, Vol. II	60
20 Copies of Nicholls Concise Guide (Navigation), Vol. I	360
20 Copies of Nicholls Concise Guide (Navigation), Vol. II	360
10 Copies of Nicholls Seamanship	180
10 Copies of Thomas's Stowage	270
5 Copies of Ships Business (Aubery Rees)	50
10 Copies of Engineering Knowledge etc. (Le Mesurier)	80
10 Copies of Ship Construction and Calculations (Nichol)	250
10 Copies of Ship Stability (Nicol)	200
10 Copies of Knowledge of Principles (Jones)	60
10 Copies of Meteorology (Brown)	100
10 Copies of Deviation and the Deviascope (Brown)	100
4 Copies of Admiralty Manual of Compass Deviation	20
20 Copies of Sailing Directions and Pilots, Various	200
30 Copies of Azimuth Tables (Davis and Burdwook)	300

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Reference Library for Nautical Section of Nautical and Marine Engineering College of India (Bombay)

Navigation

Admiralty Navigation Manual 1938, Vol. I
Admiralty Navigation Manual 1938, Vol. II
Admiralty Navigation Manual 1938, Vol. III
Wrindles in Practical Navigation (Lecky)
Nicholls's Concise Guide—Vol. I
Nicholls's Concise Guide—Vol. II
Text-book on Navigation and Nautical Astronomy (Gill).
Modern Navigation (Hall)
A Treatise on Navigation (Merrifield)
Mathematical Astronomy (Barlow and Ryan)
Definitions in Navigation and Nautical Astronomy (Groves-Howell)
Manual of Modern Navigation (Burton)
Brown's Star Atlas
What-Star is it? (Harvey)
Captain Rugg's Star diagram
Air Navigation, Vol. I (Air Ministry)
First Steps in Astronomy (Burns)
Sea and Air Navigation (Smart)
Foundations of Astronomy (Smart)
Astrographics (Debenham)
Macdonald's Tables for correcting Wireless Bearings
Excelsior Ex Meridian and Position Finding Tables (Blackburns)
Davis's Azimuth Tables
Tables for Azimuth Gt. Circle Sailing etc. (Blackburne)
Modern Chartwork (Stweart and Stephen)
Handy Book of the Stars (Whall)
Hardboard's Glossary of Navigation
Handbook of Sea Navigation (Smart).

Deviation and Compass

Admiralty Manual for the Deviations of the Compass
Elementary Manual for the Deviations of the Compass (Creek)
Admiralty Manual of the Gyroscopic Compass, 1925
Manual of Admiralty Gyro-Compass, (Sperry Type) 1941
Deviation and the Deviascope (Brown)
Notes on the Correction of the Magnetic Compass in Ships (Admiralty)
The Air-Mariner
Applied Gyrodynamics (Ferry).

Seamanship

Admiralty Manual of Seamanship, Vol. I
Admiralty Manual of Seamanship, Vol. II

Nicholls's Seamanship and Nautical Knowledge of all grades. B. Son & Ferg.

Description of the Rocket Apparatus

The Boatswain's Manual (McLeod)

Cargo Work (Taylor).

Ship Constructions and Stability

From Slip to Sea (Hardy)

Merchant Ship Construction (Pursey)

Merchant Ship Stability (Pursey)

Ship Stability and Trim (Hillhouse)

Ship Economics (Owen)

Theoretical Naval Architecture (Attwood)

Know Your Own Ship (Walton)

Ship Construction and Calculations (Nicol)

Ship Stability and other Calculations (Nicol)

Modern Practice of Shipbuilding Thearle, Vol. I Text

Modern Practice of Shipbuilding Thearle, Vol. II Plates

Lloyds Rules and Regulations, 1925

Magnetism and Electricity (Duncan and Sterling)

Elementary Algebra (Hall and Knight)

Mensuration (Brabant)

Practical and Theoretical Geometry (Godfrey and Siddons)

Euclid Books I to VI and XI (Hall and Stevens)

Plane and Spherical Trigonometry (Goodwin)

Spherical Trigonometry (Todhunter and Leathem)

Elementary Applied Mechanics (Morley and Inchley)

Nautical Mathematics (Welling and Hill).

Initial Costs

	Rs.
Fitting and Equipment	21,200
Students Text Books and Publications	8,000
Reference Library	2,000
TOTAL .	31,200

I estimate at least half this amount will be met by shipping interests either in cash or by supplying various items of equipment.

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MERCHANT NAVY OFFICERS TRAINING COMMITTEE

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
MINISTRY OF COMMERCE,
NEW DELHI.

SUBJECT:—*Merchant Navy Officers Training Committee.*

SIR,

We have the honour to invite a reference to correspondence on the above subject resting with our Interim Report to Government dated 20th December, 1947, and to state that we have since arrived at further conclusions in regard to the expansion of training facilities for the Merchant Navy, which we have decided to submit to Government in this, our Second Interim Report.

2. In the First Report we recommended that a Nautical and Engineering College to provide technical instruction to candidates preparing for professional examinations should be set up as soon as possible. Details in regard to the Nautical Section of the College were furnished in that Report and those for the Engineering Section were promised later. The necessary schedule of requirements for the Engineering Section has since been prepared and is appended hereto. The preliminary notes to the schedule explain its details but we wish to state that while initially the Engineering Section should cater only for workshop apprentices and for candidates for professional examinations, it may in due course offer coaching facilities to candidates for Certificates of Competency as Engine Drivers under Inland Steam Vessel Act of 1917. When it is decided to extend the training facilities to this category of candidates also, additional staff will be needed.

3. Now that our recommendations in regard to the proposed Nautical and Engineering College have been completed we wish to urge most emphatically that the Government of India should acquire the Merchant Navy Officers' Club building exclusively for the purposes of the proposed college and for accommodating the office of the Merchant Navy Training Board. We understand that the building has been placed at the disposal of the Works, Mines and Power Ministry to provide housing accommodation for the refugees. Much though we appreciate the necessity for providing relief to these destitute persons, we must point out that the establishment of a college, as suggested above, is of great national importance and that, therefore, Government should secure the building for the College and find alternative accommodation for the refugees.

4. In paragraphs 5 and 6 of our First Report we had recommended that in the present emergency as large a number of apprentices without pre-sea training as possible should be accepted by the shipping companies and

workshops. We now understand that the response from the Shipping Companies to the Government of India's communication enquiring whether the former would be prepared to accept more direct apprentices has not been very satisfactory except for the Scindia Steam Navigation Company. We have examined the question further and have come to the conclusion that if the Government of India were to explain the seriousness of the present emergency more fully to the shipping companies and specific suggestions for the acceptance of at least a prescribed number of apprentices made to them, the shipping companies will be prepared to revise their attitude. We recommend that the various shipping companies should be asked to take apprentices as suggested below:—

	Apprentices on each ship	Total No. of apprentices
1. Scindia Steam Navigation Co.		
5 Liberty ships of over 7,000 tons gross.	12	60
17 Ships of gross tonnage between 3,000 and 5,330 tons gross.	4	68
TOTAL .	..	128
2. India Steam Ship Company Ltd., Calcutta		
6 Victory and 2 Empire ships of 7,000 tons gross each.	12	96
3. The Oceanic Navigation Co. Ltd., Calcutta		
1 Steamer of 7,000 tons gross . . .	..	12
2 Steamers of over 6,000 tons gross each .	5	10
TOTAL .	..	22
4. Bharat Line		
4 Steamers of over 6,000 tons gross each .	5	20
2 Steamers of between 3,000 and 5,000 tons gross each	4	8
1 Steamer of 2,905 tons gross . . .	2	2
TOTAL .	..	30
5. Moghul Lines		
6 Steamers between 3,000 and 5,879 tons gross each	4	24
6. New Dholera Shipping Co.		
1 Steamer of 5,161 tons gross . . .		4
7. East and West Shipping Co.		
1 Steamer of 4,782 tons gross . . .	..	4
GROSS TOTAL .		308

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We are fully aware that it will be difficult for the shipping companies to accept these apprentices due to the difficulty of finding accommodation on board ship as also Life Saving Appliances. As regards the first, we must reiterate what we stated in the First Report: by suitable alterations in the existing accommodation, this difficulty can and must be overcome. In this connection we wish to mention the commendable efforts that have already been made by the Scindia Steam Navigation Co., who have found accommodation for 12 apprentices, on board one of their Liberty ships—JALAKIRTI. We have no doubt that every shipping company can make similar arrangements. Another way of meeting the accommodation problem would be for the Companies to reduce the number of seamen normally carried on ships and utilise instead the services of some of the apprentices. As regards the question of Life Saving Appliances, we suggest that the Government of India should assist the shipping companies in every way possible to obtain the necessary equipment and to assure the companies at once of Government's help in this regard. A suggestion was made to us that the Government of India should temporarily relax their rules as to Life Saving Appliances. We are of opinion that this suggestion should not be entertained.

5. In paragraph 4 of the First Report, mention was made of the question of increasing facilities for pre-sea training. We have since given further thought to this problem and have come to the conclusion that we must have a short-term plan for the establishment of such facilities pending the formulation of a long-term plan. In view of the difficulties we have already pointed out—the acquisition of a suitable site, the construction of permanent buildings and the establishment of an institution worthy of this country—more time will lapse before such an institution can be set up than we had anticipated earlier. In view of the foregoing we have examined whether meanwhile a temporary pre-sea establishment could be set up to give the necessary pre-sea training. We are of opinion that an intensive course of training given to candidates selected on the basis of a competitive examination, before they are apprenticed with shipping companies, would be to the great advantage of the cadets and would also enable the authorities concerned to weed out those who may in the course of their training prove to be unsuitable for a career at sea. Such a temporary training establishment should, in our opinion, provide training for a period of one year, including holidays, and confine its activities to professional subjects only and such academic subjects as may have a direct bearing on the cadets' future career. This would necessitate the acceptance of only such cadets as have passed the matriculation examination and we suggest that the age limits for entry for these candidates should be from 15 to 18 years. This temporary establishment could, in our opinion, be started for the Nautical Cadets at Marve (near Bombay) in what is at present the H.M.I.S. HAMLA —a Naval Training Establishment. This place has temporary hutments which, as far as we know, are likely to be serviceable for a period of about five years. Government may have to spend some money on these structures with a view

to putting them in shape for the use of the establishment. The necessary estimates in this regard may be obtained from the C.P.W.D. While because of several considerations this site would, in our opinion, be unsuitable for a permanent establishment, it is very well suited for the purposes of the temporary establishment which we have suggested above. We must state here that the usefulness of this suggestion will depend to a very large extent upon the expedition with which the Government of India will act in the matter. Our idea is that cadets trained in this establishment should be available to the shipping companies, if possible, by the middle of the year 1949 and in any case before its end. We suggest that the Defence Ministry may be approached immediately for the H.M.I.S. HAMLA or a part thereof and that as soon as the Defence Ministry agree to place the necessary accommodation at the disposal of Commerce Ministry, an advertisement should be published inviting applications from matriculates for admission to the establishment. Although normally the function of selecting the cadets would be that of the Merchant Navy Training Board, which will have to be set up in the near future; as a temporary measure, a small *ad hoc* Committee or, if the Government of India see no objection, the present Merchant Navy Officers Training Committee may be asked to make the neccssary selections on the basis of an open competitive examination and a *viva voce* test. Details as regards the curriculum, staff, etc. are under preparation and will be forwarded to Government in due course. The acquisition of the necessary teaching staff is likely to be a difficult problem. To meet this, however, one of our colleagues (Mr. Master) during his forthcoming visit to the United Kingdom will contact some training establishments with a view to securing on loan the services of qualified instructors. The results of his efforts will be known by about the middle of March, 1948.

6. The facilities which we have proposed in paragraph 5 above will cater only for the Nautical Cadets. We are at present engaged in the examination of the question of setting up similar facilities for the Engineer Cadets also. As soon as our proposals in this regard have been finalised, they will be forwarded to Government.

7. In paragraph 14 of our First Interim Report we intimated our conviction as to the necessity for the establishment of a Merchant Navy Training Board in India and this conviction has since been further strengthened by certain information kindly furnished to us by the Merchant Navy Training Board. One of our colleagues (Mr. Master) is, as mentioned above, proceeding to the United Kingdom shortly and he will make contact with the U.K. Merchant Navy Training Board and gather further information. On his return to India, our proposals as to the constitution and function of the Indian Board will be finalised and submitted to Government.

C. P. SRIVASTAVA,
Secretary.
The 6th February, 1948.

H. L. DAVIS, *Member.*
S. R. SEN GUPTA, *Member.*
M. A. MASTER, *Member.*

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ENGINEERING SECTION

Preliminary Notes

(a) The Schedule of requirements below has been prepared by the Committee on the assumption that the Government of India will provide accomodation for the Bombay Natutical & Engineering College in the Merchant Navy Officers Club building. No provision has, therefore, been made for rent of the accommodation necessary for the College.

(b) The Committee consider that the Schedule would serve for a Marine Engineering College whether in conjunction with a Nautical College as proposed by the Committee or as a separate institution.

(c) The scales of pay of the Staff have been suggested provisionally. When finally determined, they should be the same, grade for grade, as those of the Staff of the Nautical Section of the College.

(d) The Engineering Section of the College should cater for the needs of

(i) Persons who have put in the necessary workshop and sea time and are preparing to sit for the various professional examinations in Marine Engineering, and who require special pre-examination instruction; and

(ii) Apprentices who are serving their time in approved Engineering Workshops in Bombay, in the form of night classes and Saturday classes.

(e) The equipment required for d(ii) above will be much heavier and more expensive than that required for d(i). In the Schedule, the items which the College must possess before the Engineering Section can be opened have been marked with a star. If considered necessary other items may be purchased gradually.

The cost of the equipment as also that of furniture, mentioned in the Schedule is only an approximate estimate. Much of this work will have to be put out to contract. The Engineering Workshops will probably be able to assist in procuring the necessary models etc.

(f) As in the case of the Nautical Section, Dearness and Compensatory Allowances have not been included in the proposed salaries.

(g) As in the case of the Nautical Section, residential accommodation should be provided for such students as may require it. The question, however, of allowing part-time students, that is, Workshop Apprentices attending night classes, to reside at the College is being considered separately and our recommendations in this regard will follow.

(h) It is presumed that the furniture already in the Merchant Navy Officers Club will be available. An estimate of the cost in addition to that of the Nautical Section is given below.

Capital Cost—

	Rs.
Fittings and Equipments	35,950

Recurring Cost—

Initial Salaries	2,300

This does not include the cost of the Engineering Library.

The Radio Equipment should be available for both Sections of the College.

Requirements of Staff etc. for the Engineering Wing of the proposed Nautical and Engineering College

STAFF—

Head of the Engineering Division. . . . . . Rs.1,200—50—1,600

Should hold an extra First Class Engineers Certificate, with previous experience of teaching . . . . 1 No.

Lecturer in Engineering. . . . . . Rs. 600—50—1,150

An Engineer having a First Class degree in Electrical and Mechanical Engineering from an Indian or Foreign University, with previous teaching experience . . 1 No.

Instructor in Mechanical Drawing. . . . . . Rs. 400—50—700

B. Sc. in Mechanical Engineering with experience of work in Marine Engineering Drawing Office . . 1 No.

Ministerial Staff . . . . . Rs. 100—5—150

Clerk (must also be a typist) . . . . . 1 No.

ACCOMMODATION—

Staff Room—

Superintendent . . . . . 1 room.

Lecture Rooms—

Lecture Rooms for Engineering . . . . . 2 Nos.

Drawing Office . . . . . (1 big hall for [illegible] students)

Laboratory . . . . . 1 room

Office Room . . . . . 1 No.

Students' Common Room . . . . . 1 No.

Library . . . . . 1 No.

	Rs.
Furniture and Fittings—	
(1) *Staff Room—*	
(*a*) Superintendent's room	750
(*b*) For Lecturers' room	750
(2) *Lecture Room—*	
(*a*) Raised platform for Lecture room 150×2	300
(*b*) Desk and Chairs for Lecturer in Lecture room 75×2	150
*(*c*) Black-Boards fixed on the wall—	
Lecture room 3 Nos. / Drawing office 1 No. / Laboratory 1 No. (small) — 100×2=200, 50×1=50	250
*(*d*) Students Desks and Chairs 30×30×2	1,800
(*e*) Drawing Room—	
*Drawing Board Rs. 30 / *Tee-Square „ 25 / *Trestle „ 35 / *Stool „ 10 — Rs. 100 — 100×30	3,000
(*f*) Office Room	300
(*g*) Library	500
(*h*) Students Common Room	400
Drawing Instruments—	
*Complete set—Rs. 125 each, 125×50	6,250
*Sets Square—30 pairs	300
*Sectional Models of Engines, Boilers etc. lot	1,000
	15,750

List of equipment for Electrical Laboratory

1. Machines—

Motor Generator Set—

A.C. to D.C. 3-phase A.C. Synchronous Induction Motor, coupled on the same shaft to a compound wound D.C. Generator (Field terminals brought out separately on a board) mounted on a substantial C.I. Base plate, with D.C. Control Panel and having voltage regulators etc. on the D.C. side and starting devices on A.C. side.	*A.C. Side.* 400/440 V. 50 cycle. 7·5 H.P. 1500 R.P.M. Motor. *D.C. Side.* 220/230 V-5 K.W. Generator. 1 set Rs. 2,500

Transformer—

Single phase, 2 K.V.A. 400/230/115 V.	1 No. Rs. 250
	Rs. 2,750

List of equipment for General Engineering Science

Heat Engine—

*Discarded Steam Engine for demonstration	1 No. Rs. 500
Different types of Boilers mounting and fittings	lot Rs. 500
*Discarded Ruston Hornby Crude Oil Engine	1 No. Rs. 500
A.C. Electrical Centrifugal Pumping Set	1 set Rs. 800

Model—

Sectionalised Models of Engines, Boilers, Stephenson's Link Motion, Valve Setting models, Boiler mountings and fittings	lot Rs. 1,500
Wooden Jib-crane	1 No. Rs. 100
Wooden Roof-Truss	1 No. Rs. 100

Accessories—

Stop clock	1 No. Rs. 50
Techometer	1 No. Rs. 200
	Rs. 4,250

Radio Equipment

		Rs.
1. Communication Receiver (Halicrafter Type)		1,200
2. Transmitter—Medium Wave Band 100/150 Watt		2,500
Transmitter—Short Wave Type 100/150 Watt		3,000
3. D.F. Set	1 set	5,000
4. Valve Tester	1 set	1,000
5. Avometer	1 No.	500
		13,200

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Annexure 14.
Item 12 of Agenda.

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Third meeting.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M E M O R A N D U M.

At its first meeting held in April/May, 1946 the All India Council for Technical Education was unable to accede to the request for representation of the All India Manufacturers' Organisation, Bombay, as it was felt that the Council was already of a large size and that almost all members of the Organisation were also members of the different employers' Organisations which were already represented on the Council. The All India Manufacturers Organisation has asked for reconsideration of their request vide extract from their letter dated the 7th January 1948, reproduced below.

Extract from a letter No.79, dated the 7th January 1948, from the Secretary, All India Manufacturers Organisation, Bombay, to the Secretary Ministry of Education, Government of India, New Delhi.

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Further I am directed by my Working Committee to communicate to you that they note with the deep regret that the Organization has not been given a representation on the Council in spite of our requests.

You are aware, Sir, that the All India Manufacturers' Organization, since its inception, is carrying on side by side with their propaganda for industrialization of the country, the need for technical and scientific education of our people. My Committee also met a couple of years ago the Chairman, Hon'ble Mr. R.K. Shanmukham Chetty, and members of the All India Industrial and Scientific Research Committee in Bombay and discussed with them our views on the subject of research and education. I may bring to your notice that we have got a separate Sub-Committee appointed for Scientific and Technical Research and Education. We have considered research schemes

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from individual industries as well as from technical committees of some of the Provincial Governments. Also we have prepared a scheme for the establishment of an Industrial Research Corporation. Our Committees consist apart from manufacturers also of technical men of repute who are today holding high places in some of the well-known heavy and key industries of the country. Recently our Delegation which visited foreign countries in 1946-47 have also studied the subject of Technical Education and have impressed on the necessity for Technical Education.

My working committee, therefore, request you to kindly reconsider your decision and co-opt a representative of our Organization to the said council.

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ALL INDIA COUNCIL
FOR
TECHNICAL EDUCATION.

Third Meeting.

Place: Bombay

Dates: 22nd and 23rd April,1948.

Agenda.

1. To report that the proceedings of the second meeting of the All India Council for Technical Education held at Bangalore on the 29th and 30th May,1947 were confirmed by circulation to members.

2. To report the present membership of the Council.

Annexure 1.

3. To receive and to consider the minutes of

(a) the fourth meeting of the Co-ordinating Committee of the All India Council for Technical Education held in New Delhi on the 15th November,1947 and

(b) the fifth meeting of the Co-ordinating Committee of the All India Council for Technical Education held in Bombay on the 19th April,1948.

Annexures 2 & 3.

4(a). To receive and to consider a note setting out the action taken to constitute the Regional Committees of the Council.

Annexure 4.

(b). To consider suggestions of the Government of Bombay on the composition of the Co-ordinating Committee and the proposed Regional Committees of the Council.

Annexure 5.

5. To report the action taken by the Government of India on the recommendations made by the Council at its second meeting and to consider matters arising therefrom.

Annexure 6.

6(a) To receive and to consider a note on the activities of the All India Boards of Technical Studies.

Annexure 7.

(b). To elect representatives of the Council on the reconstituted All India Boards of Technical Studies.

Annexure 7(a).

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6(c). To consider letters from

1. Secretary, Federation of Indian Chambers of Commerce and Industry, New Delhi.
2. All India Organisation of Industrial Employers, New Delhi, and
3. Secretary, the Employers Federation of India, Bombay,

regarding representation of employers on the All India Boards of Technical Studies.

Annexure 8.

7. To consider the suggestions of the Government of West Bengal in regard to the organisation of Technical Education.

Annexure 9.

8. To consider a representation from the Technical Employees Association, C.P.W.D., regarding grant, to Diploma Holders in Service, of direct admission to the Degree or All India Diploma Examinations.

Annexure 10.

9. To consider a note from the Government of Madras on the organisation of apprenticeship Training, and the provision of facilities for the training of students in Tele-communications Engineering in the All India Radio.

Annexure 11.

10. To receive and to consider the report of the Re-organisation Committee of the Indian School of Mines, Dhanbad.

Annexure 12.

11. To receive and to consider the reports of the Committee appointed by the Ministry of Commerce, Government of India, on training of personnel for the Merchant Navy in India.

Annexure 13.

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12. To consider the request of the All India Manufacturers Organisation for representation on the Council.

Annexure 14.

13. To elect from their respective constituencies members on the Co-ordinating Committee of the Council in place of Pandit Govind Malaviya (Central Legislature) and Professor B.N. Banerji (Commerce, Industry and Labour).

14(a). To report that Sir J.C. Ghosh lately Director, Indian Institute of Science, Bangalore and now Director General, Industry and Supply, Government of India and Mr. H.N. Shrivastava, Additional Chief Engineer, Posts and Telegraphs, New Delhi have been nominated by the Chairman to represent the Council on the General Council and the Engineering Division Council respectively of

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the Indian Standards Institution.

(b) To report that Major D.L. Deshpande Principal Engineering College, Trivandrum has been nominated by the Chairman to represent the Council on the Advisory Committee for the Power Engineering Department of the Indian Institute of Science, Bangalore.

15. Any other business with the permission of the Chairman.

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Annexure 1
Item No. 2 of Agenda

ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION.

LIST OF MEMBERS.

Chairman	1. Mr. N. R. Sarker, 'Ranjani', 237, Lower Circular Road, Calcutta.
Educational Adviser to the Government of India.	2. Dr. Tara Chand, M.A., D. Phil., Educational Adviser to the Government of India, Ministry of Education, New Delhi.

MINISTRIES OF THE GOVERNMENT OF INDIA	REPRESENTATIVES
Ministry of Agriculture . . .	3. Professor J. N. Mukerjee, Director, Indian Agricultural Research Institute, New Delhi.
Ministry of Commerce . . .	4. Mr. K. K. Chettur, M.A., Joint Secretary, Ministry of Commerce, New Delhi.
Council of Scientific and Industrial Research.	5. Dr. Sir S. S., Bhatnagar, O.B.E., D.Sc., F.R.S., Director, Council of Scientific and Industrial Research, New Delhi.
Ministry of Finance . . .	6.
Ministry of Health	7. Mr. P. M. Menon, I.C.S., Joint Secretary, Ministry of ~~Finance~~ Health, New Delhi.
Ministry of Industry and Supply :	8. Mr. M. P. Pai, I.C.S., Joint Secretary, Ministry of Industry and Supply, New Delhi. 9. Dr. J. N. Ray, Deputy Director General (Development), D. G. I. & S., New Delhi.
Ministry of Labour . . .	10. Mr. S. Lall, C.I.E., I.C.S., Secretary, Ministry of Labour, New Delhi.
Ministry of Communications . .	11. Rao Bahadur N. C. Ghosh, Director General of Civil Aviation in India, New Delhi.
Ministry of Railways . . .	12. Mr. F. C. Badhwar, Member, Railway Board.
Ministry of Defence . . .	13. Deputy Director, Military Training (Technical), Ministry of Defence, New Delhi.
Ministry of Works, Mines and Power	14. Mr. D. L. Mazumdar, I.C.S., Joint Secretary, Ministry of Works, Mines and Power, New Delhi.
Ministry of Food	15. Mr. J. M. Lobo Prabhu, I.C.S., Joint Secretary, Ministry of Food, New Delhi.
Ministry of Transport . . .	16. Consulting Engineer to the Government of India (Roads), Ministry of of Transport, New Delhi.

Development Board	17. The Secretary, Development Board, New Delhi.
Central Board of Irrigation	18. Shri A. N. Khosla, I.S.E., President, Central Board of Irrigation, C/o Secretary, Central Board of Irrigation, Kennedy House, Simla S. W.

CONSTITUENT ASSEMBLY OF INDIA (LEGISLATIVE)

19. Nawab Muhammad Ismail Khan, 210-A, Sadar Bazar, Mustafa Castle, Meerut.
20. Dr. Punjabrao Sharmrao Deshmukh, Amraoti.
21. Shri Biswanath Das, Hospital Road, Berhampore, District Ganjum, B.N. Railway (Orissa).
22. Shri Suresh Chandra Majumdar, 1, Burman Street, Calcutta.
23. Prof. Yashwant Rai, c/o Shri Prithvi Singh Azad, M.L.A., P. O. Nayashahr, Tehsil Kherar, District Ambala.

PROVINCIAL GOVERNMENTS.

Government of Madras	24. Joint Director of Industries and Commerce, Madras.
Government of Bombay	25. Hon'ble Mr. B. G. Kher, Prime Minister. or Director of Public Instruction, Bombay Province, Poona.
Government of West Bengal	26. The Hon'ble Minister for Education, West Bengal or his nominee.
Government of Bihar	27. The Director of Industries, Bihar.
Government of Assam	28. The Hon'ble Minister for Industries, Assam or The Director of Industries, Assam.
Government of Orissa	29. Shri Bijayanand Patnaik, M.L.A., Cuttack.
Government of East Punjab	30.
Government of the United Provinces	31. The Hon'ble Minister of Industries, United Provinces, or Representative.
Government of the Central Provinces	32. Dr. V. S. Jha, Director of Public Instruction, C. P. and Berar, Nagpur.

INDIAN STATES

Hyderabad-Deccan	33. Syed Ali Akbar, M.A. (Cantab), Director of Public Instruction, H. E. H. the Nizam's Government.

Mysore	34. Director of Public Instruction, Mysore (R. Kasturi Raj Chetty, B.A., B.L., Dip. Edn.)
Central India States (Holkar Government).	35. Captain H. B. Richardson, A. B. (Princeton), M.A. (Hons.), (Cambridge), Education Minister. Indore.
States of Western India, Gujarat and Baroda.	36. Raj Priya Dinshaw R. Daboo, B.A., Development Member, Baroda Government, Baroda.
Madras States, Travancore and Cochin.	37. Major D. L. Deshpande, B.Sc. (Hons.) M.Sc. (Eng.), M.I.E., A. M. I. E., Principal, Engineering College, Trivandrum.

INDUSTRY, COMMERCE AND LABOUR

Associated Chambers of Commerce of India, Calcutta.	38. Mr. A. Farrington, c/o M/s. Greaves Cotton and Co., Ltd., 1, Forbes Street, Fort, Bombay.
	39. Mr. J. A. Murray, Messrs. Jardine Skinner & Co., Calcutta.
All India Organisation of Industrial Employers, Bombay.	40. Mr. M. A. Master, General Manager, Scindia Steam Navigation Co. Ltd., Scindia House, Ballard Estate, Bombay.
	41. Dr. K. A. Hamied, c/o C.I.P.L.A., Manufacturers of Chemical and Pharmaceutical Products, 289, Belassis Road, Byculla, Bombay.
Federation of Indian Chambers of Commerce and Industry, New Delhi.	42. Mr. K. D. Jalan, Senior Vice President, Indian Chambers of Commerce, 102-A, Clive Street, Calcutta.
	43. Sir Shri Ram, 22, Curzon Road, New Delhi.
Indian National Trade Union Congress, Bombay.	44. Shri Harihar Nath Shastri, 11/39, Gwaltoli, Kanpur.
The Employers Federation of India, Bombay.	45. Mr. G. V. Apte, Superintendent of Training, the Tata Iron and Steel Company Limited, Jamshedpur (Via Tatanagar).
	46. Dr. K. Venkataraman, D. Sc., Director, Department of Chemical Technology, University of Bombay, Matunga, Bombay.
The All India Trade Union Congress.	47. Mr. Chakkrai Chettiar, c/o Madras Provincial Committee of All India Trade Union Congress, 157, Sharaf Ali House, Broadway, Madras.
	48. Mr. Vithal Chowdhary, M.Sc., Dalvi Building, Parel, Bombay.
The Indian Federation of Labour, Delhi.	49. Miss Maniben Kara, Cumbala Hills, 7, Huges Road, Bombay.

50. Mr. J. N. Mitra, Indian Federation of Labour, Albert Hall, 15, Bunkim Chatterji Street, Calcutta.

All India Railwaymen's Federation .

51. Mr. S. Guruswami, General Secretary of the All India Railwaymen's Federation, Mylapore, Madras.

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ASSOCIATION OF PRINCIPALS OF TECHNICAL INSTITUTIONS (INDIA).

56. N. N. Sen, Principal, Bengal Engineering College, Sibpore, Howrah.

57. Mr. P. N. Joshi, M.Sc., Technical, Principal, Victoria Jubilee Technical Institute, Bombay.

THE INSTITUTION OF ENGINEERS (INDIA)

58. Mr. N. V. Modak, C.I.E., J.P., B.E., M. Inst. C. E., M.I.E. (India), F. R. San. I., "Udyam" Near Sivaji Park, Bombay 28.

59. Mr. C. E. Preston, M. Engineering (Liverpool), M.B.E., M.I.E. (India), Special Officer, Department of Technical and Vocational Education, Mint Compound, Saifabad, Hyderabad (Deccan).

THE INDIAN INSTITUTE OF ARCHITECTS (BOMBAY)

60. Mr. H. N. Dallas, A.R.I.B.A., c/o Messrs. Parelkar and Dallas, Medows House, Medows Street, Fort, Bombay.

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THE NATIONAL PLANNING COMMITTEE

INDIAN CHEMICAL SOCIETY, CALCUTTA

61. Dr. Sir J. C. Ghosh, D.Sc., F.N.I., Director General of Industry and Supply New Delhi.

62. Professor K. T. Shah, University Buildings, Fort, Bombay.

63. Dr. B. C. Guha, D.Sc., Ph.D., F.N.I. Professor and Head of the Department of Applied Chemistry, University College of Science, 92 Upper Circular Road, Calcutta.

NOMINATED BY THE GOVERNMENT OF INDIA

64. Sir Fazal Ibrahim Rahimtoola, C.I.E., B.A., Ismail Building, Hornby Road, Bombay.

65. Dr. A. H. Pandya, Sc.D., M.I.E., 17, Raja Santosh Road, Calcutta.

SECRETARY.

Dr. S. R. Sen Gupta, B.Sc. (Glas.), Ph.D. (Glas.), Deputy Educational Adviser to the Govt. of India, Ministry of Education.

GIPD—M269 MofEdn—18-3-48—500.

CONFIDENTIAL

Proceedings of the 4th Meeting of the Co-ordinating Committee, of the All-India Council for Technical Education held at New Delhi on the 15th November, 1947.

1. The fourth meeting of the Co-ordinating Committee of the All-India Council for Technical Education was held at New Delhi on the 15th November, 1947, under the Chairmanship of Mr. N.R.Sarker. The following members were present :-

1. Mr. N.R.Sarker (Chairman)
2. Prof. B.N.Banerjee
3. Mr. Walter George
4. Sir J.C.Ghosh
5. Dr. V.S.Jha
6. Rai Bahadur N.K.Mitra
7. Mr. N.V.Modak
8. Sir John Sargent
9. Dr. S.R.Sen Gupta (Secretary)

Principal P.N.Joshi, a member of the Council attended on behalf of Sir Vithal Chandavarker, Chairman of the Board of Textile Technology. Pandit Govind Malviya who was a representative of the previous Central Legislature, and therefore according to the constitution of the Council ceased to be a member of both the Council and its Co-ordinating Committee with effect from the 15th August, 1947, was also present by special invitation. Sir S.S.Bhatnagar, Sir Padampat Singhania, Sir Vithal N.Chandavarker, Major D.L.Deshpande, Dr. K.A. Hamied, Sir A.L.Mudaliar and Mr. G.L.Mehta were unable to attend (The agenda of the meeting is shown in Annexure I).

It [illegible]

Item No. 1 To report that the proceedings of the third meeting of the Co-ordinating Committee held at Bangalore on the 27th and 28th May, 1947, were confirmed by circulation to members. The proceedings were considered by the All India Council for Technical Education at its second meeting held on the 29th and 30th May, 1947.

2. It was reported that the proceedings of the third meeting of the Co-ordinating Committee held at Bangalore on the 27th and 28th of May 1947 were confirmed by circulation to members and were considered by the All-India Council for Technical Education at its meeting held on the 29th and 30th May 1947.

Item No. II. To receive and consider the report of the Sub-Committee appointed by the Co-ordinating Committee to scrutinise the reports of the Visiting Committees and to make recommendations for grants to the institutions concerned.

3. The Committee then considered the report of the Scrutinising Committee (Annexure II) which met at New Delhi on the 14th November, 1947 and expressed satisfaction with the soundness of the recommendations made by the Scrutinising Committee. As already decided by the Council, the Committee reiterated their view that the following important institutions of engineering and technology should be strengthened and developed immediately by means of financial assistance from the Central Government :-

I. Engineering College, Banaras Hindu University.
II. College of Engineering and Technology, Jadavpur
III. Victoria Jubilee Technical Institute, Bombay
IV. College of Mining and Metallurgy, Banaras Hindu University.
V. College of Technology, Banaras Hindu University.
VI. Department of Chemical Technology, Bombay University.
VII. Lakshminarayan Institute of Technology, Nagpur University.
VIII. Department of Applied Chemistry, College of Science and Technology, University of Calcutta.
IX. Department of Applied Physics, College of Science and Technology, University of Calcutta.
X. Jaipur Vikram Deo College of Science and Technology, Andhra University.
XI. The Allagappa Chettiar College of Chemical Technology, Madras University.

XII. College of Engineering and Technology, Muslim University, Aligarh.
XIII. College of Engineering, Annamalai University.
XIV. Dayalbagh Technical College, Agra.

4. The Committee considered the relative merits of the different institutions from the point of view of recommending financial assistance for strengthening them. They agreed with the Scrutinising Committee that of the 14 institutions listed above, the last three, namely, the College of Engineering and Technology, Muslim University, the College of Engineering Annamalai University and the Dayalbagh Technical College, Agra, should be treated on a different footing from the rest for the reason that not much progress had been made with the Engineering Colleges of Annamalai and Aligarh Universities, whereas the Dayalbagh Technical College, although a good one of its kind, required to be strengthened considerably to bring it to the standard of an Engineering College providing degree courses. The Committee, therefore, recommended that grants to these institutions should be made by the Central Government only after the institutions had raised sufficient funds from other sources to meet at least a third of the total capital and recurring cost involved in bringing them up to the requisite standard.

5. The Committee then considered the basis of assessment of the minimum requirements in respect of building space, equipment, library, etc., in a good institution of Engineering and Technology; the minimum recurring cost of technical education, hostel accommodation etc., and the present day building costs. The Committee agreed with the assessments made by the Scrutinising Committee as set out below :-

(a) College Building (to include instructional space, Workshops, laboratories, office etc.) A good Engineering College providing in the main undergraduate courses should have a minimum floor area calculated on the basis of 200 sq ft. per student and a Technological Institution providing mainly post-graduate courses and research facilities should have a minimum floor area calculated on the basis of 300 sq ft. per student.

(b) Laboratory equipment and Workshop (Machinery and Tools)

Considering the present market prices, the equipment, library etc. should be provided at the rate of atleast Rs.5,000/- per student, if an institution is to be adequately equipped.

(c) Cost of education.

The Committee agreed with the Scrutinising Committee that at a properly staffed institution the cost of education would amount to approximately Rs. 1,000 per student per annum for Engineering and Rs. 1200 per student per annum for Chemical Technology and Chemical Engineering Degree courses. The latter figure may prove to be a little low for post-graduate and research institutions.

(d) Hostel accommodation.

In regard to hostel accomodation, provision should be made at the rate of 150 sq. ft. per hostel seat and Rs. 150 per seat for furniture and fittings.

(e) Building Cost.

The cost of college building should be calculated at the rate of Rs. 12/8/- per sq. ft. and that of hostel buildings at the rate of Rs. 10/ per sq. ft. For Calcutta and Bombay, the figures should be Rs. 15/- and Rs. 12/8/- per sq. ft. respectively. In the case of institutions providing mainly post-graduate instruction and research facilities, an additional provision at the rate of Rs. 5/- per sq. ft. would be required to meet the extra cost of fittings and furnishings.

6. With regard to the conditions to be imposed on the institutions receiving grants the Committee decided on certain modifications of the recommendations made by the Scrutinising Committee in this behalf. The conditions as amended are as follows:-

(i) While no encroachment on the autonomy of the Universities is suggested, syllabuses of studies should be in harmony with the pattern adopted by the All-India Council for Technical Education.

(ii) (a) The non-University institutions shall include in the Selection Committee appointed for the purpose of recruitment of staff, independent experts with the approval of the All-India Council for Technical Education.

(b) In the case of colleges or departments under the administrative control of universities, the appointment of staff shall be made by Selection Committee constituted in accordance with the Universities' Acts and rules, or if the appointment of selection committees is not specifically provided for in the University Act, the rules for the appointment of such Committees shall be framed with the approval of the Inter-University Board. In every case, the All-India Council for Technical Education shall be acquainted with the rules and regulations for the selection and appointment of staff.

(iii) Equipment for laboratories of various types and workshops shall be generally as prescribed by the All-India Council for Technical Education.

(iv) Grant under a particular head shall not be utilised for purposes other than that for which it is intended except with the general approval of the All-India Council for Technical Education.

(v) (a) A visiting committee or an inspector appointed by the All-India Council for Technical Education shall periodically visit the non-University institutions receiving grants and report to the Council whether the grants given by the Government are being properly utilised and also whether proper standards of teaching and examination are being maintained.

(b) In the case of University Departments, or Institutions administered directly by Universities, the University concerned, shall appoint a Visiting committee in accordance with its own rules. xxxxxxxxxxxxxxxxxxxxx Where ..

such rules do not exist already, the University will be, recuired to frame them in consultation with the University Grants Committee. Such Visiting Committees shall inspect the institutions annuallyand report to the Universities whether the Government grants are being properly utilised and proper standard of instruction and examination maintained. The Universities shall forward copies of all such reports to the All-India Council for Technical Education.

(vi) Where degree course as well as diploma courses of a definitely lower standard than the degree in the same subject, are being taught, the diploma courses shall be discontinued or separated from the College or Institution receiving grant, so that no portion of the capital or recurring grant is utilised either directly or indirectly except for the promotion of higher technical education.

(vii) Receipients of recurring grant shall bring the salary scale of teaching staff and their qualifications to the level recommended by Central Government within three years from the date from which the grant is made.

(viii) In the case of non-university institutions, the appointment of Professors or Heads of Departments for a period exceeding three months shall be subject to the approval of the All-India Council for Technical Education. The placing of the present incumbents on professorial status or the status of Heads of Departments carrying the salaries prescribed by the Central Government shall also be subject to the approval of the Council.

(ix) The Central Government shall determine the quota for each province for purposes of admissions to the institutions concerned, especially to those additional seats which may be provided as a direct result of the grant from the Central Government.

(x) Capitation fees shall not be charged in respect of students admitted under the quota system fixed by the Central Government.

(xi) (a) The Central Government shall have atleast two seats for its nominees on the Managing Committee or the Governing Body (consisting of say 12 members) of non-university institutions and the All-India Council for Technical Education shall also have two seats thereon. Provision should also be made for the teaching staff to be adequately .....

represemted on the Managing Committee or the Governing Body of the Institutions. (

(b) In the case of institutions or departments administered directly by a University, the Central Government and the All-India Council for Technical Education shall have the right to nominate one member each on the Committee of Management or on the Advisory Committee.

(xii) The number of students to be admitted each year and the total strength of the student population of the College or the Institution shall not exceed the number which may be fixed from time to time by the All-India Council for Techical Education.

7. 7. The Committee then considered the question of capital grants by Government for the construction of hostels and agreed with the Scrutinising Committee that the assistance for the purpose of providing hostels should be in the nature of an interest-free loan repayable to the Government within 33 years.

The Committee also endorsed the view of the Scrutinising Committee that for the present, the Government need not give any grant or loan for building staff quarters.

8. Nature of financial assistance and spread of grants.

The Committee recommended that the financial assistance from the Central Government should be in the nature of

(I) Capital grant for college building and equipment etc.

(II) Annual recurring grant towards the cost of education, to meet the excess of recurring expenditure on salaries, stores and contingencies etc. over income from endowments, student fees etc.

(III) An interest-free loan for the purpose of providing student hostels repayable to the Government within 33 years.

As regards the mode of payment of grants and loans the Committee came to the following conclusions :-

(a) The entire capital grant for the construction of college buildings should be spread over a period of three years ending in the financial year 1949-50. Similarly the loan for construction of student hostels should be spread over the same period.

(b) The capital grant for equipment may be spread over a period of four years ending in the financial year 1950-51 in the following manner :-

5 per cent of the total recommended, in the year 1947-48
15 " " " " " 1948-49
60 " " " " " 1949-50
20 " " " " " 1950-51

If, however, the position regarding the availability of equipment improves to some extent, the grant may be allocated as follows :-

5 per cent in the year 1947-48
30 " " 1948-49
45 " " 1949-50
20 " " 1950-51

The grant on equipment normally spread over a period of five years may however be differently adjusted if the Government is satisified that an institution or institutions can arrange to acquire the necessary and requisite equipment at an early period.

(c) The recurring grant should be so arranged that in the fifth year, i.e. in the year 1951-52, an Institution should be receiving the maximum grant recommended.

The allocation may be as follows :-

20 per cent of the max. grant recommended, in the year 1947-48
40 -do- 1948-49
60 -do- 1949-50
80 -do- 1950-51
100 -do- 1951-52

The reasons for the above allocation are mainly

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as follows :-

(i) Increase in the student population would be gradual

(ii) It would take the institutions some time to properly re-organise their staff.

The Committee, however, recognised that suitable re-adjustments may be necessary to suit individual institutions and recommended that the allocation indicated above should be regarded as purely tentative and the Government should make suitable adjustments so as to enable the institutions to recruit competent staff as early as possible.

(d) Interim Relief.

In the case of College of Engineering and Technology, Jadavpur, the Victoria Jubilee Technical Institute, Bombay, and the College of Engineering, Banaras Hindu University, the Committee recommended that the Government should give immediately some interim grants in addition to the grants etc. recommended for the year 1947-48, for the Committee learns that the Jadavpur and the Banaras Colleges were in financial difficulties and the Victoria Jubilee Technical Institute also required financial assistance to cope with the refugee students from Sind. The amount of such interim relief should, however, be determined by the Ministry of Education and the grants so given deducted from the amounts payable in subsequent years.

9. The Committee was informed that a large amount of surplus equipment suitable for educational purposes were available in America and they expressed the opinion that since the procurement of equipment was a matter of great urgency and required immediate consideration, the Government of India should depute two or three suitable officers immediately to go abroad for the purpose of facilitating .....

purchase and shipment of the equipment required by the Technical Institutions in the country. The delegation should be empowered to enter into necessary financial commitments for this purpose. The Committee was informed by the Chairman that contacts may be made with America through Dr. B.C.Roy who had returned from America recently and knew the details of how that arrangement could be made.

10. Grants to University Institutions.

The Committee was of the opinion that since the scope of the University Grants Committee was for the present limited to the three Central Universities, the Ministry of Education should take necessary action so that the grants recommended for non-central university institutions are made immediately available to them, without waiting for the extension of the scope of the University Grants Committee. With regard to the Central Universities, it was recognised that the Ministry of Education would take such action as it may consider appropriate. The Committee, however, was of the opinion that the Government should immediately take such action as would ensure the timely disbursement and utilisation of grants recommended forthe year 1947-48. The Committee felt that it should be left entirely to the discretion of the Ministry of Education whether they should apprise the University Grants Committee of the action which they might take in respect of grants to the non-central universities.

11. Recommended annual intakes and other observations.

The Committee then considered the question of annual intakes of students into various institutions recommended for financial assistance. Their views in this and other related matters are given below. The Committee, however, recognised that the intake which they now considered appropriate might require to be modified from time to time by the All-India Council for Technical Education.

p.t.o.

(I) College of Engineering, Banaras Hindu University.

The number of annual admissions should be 160, i.e. 80 each for the mechanical and electrical engineering degree course for the present, and later on this number may be changed to 60, 60 and 40 for mechanical, electrical and civil engineering degree courses respectively when in the opinion of the Council the College has been sufficiently strengthened.

(II) College of Engineering & Technology, Jadavpur.

The annual admission to the College should be 200 - 80, 60 and 60 in the mechanical, electrical and chemical engineering degree courses respectively.

The Institution should be required to either discontinue the junior courses (diploma and certificate courses) and the agriculatural course; or to provide these courses in an entirely separate institution, within a period of three years from the receipt of the first grant. It may be mentioned here that the grant is entirely for the Engineering section of the College.

(III) Victoria Jubilee Technical Institute.

In addition to the present rate of admission of 40 students to the combined mechanical and electrical degree courses, the institution should admit 20 more students; and in addition to the present rate of admission of 10 students to the Textile Manufacture Degree course, the institution should admit ten more students. Civil Engineering Degree courses should also be introduced immediately with an annual intake of 50 students and a Chemical Engineering Degree course should also be introduced immediately in collaboration with the Bombay University Chemical Technology Department with an annual intake of 20 students.

IV. College of Mining and Metallurgy, Banaras Hindu University.

The annual rate of admission to this College should be as follows :-

Mining	... 16
Metallurgy	... 32

The Committee endoresed the view of the Scrutinising Committee that the Fuel Technology course should not be introduced.

(V) College of Technology, Banaras Hindu University.

The annual intake of students in the pharmaceutics and the industrial chemistry departments should be 22 and 30 respectively.

The Committee was not in favour of recommending any financial assistance for the Ceramics and Glass Technology Department of these institutions and decided that no portion of the grant recommended should be utilised for this Department.

(VI) Department of Chemical Technology, University of Bombay.

The Department should admit the following additional students to the degree courses and for research work:-

Textile Chemistry	= 18
Plastics & Paints and Varnishes	= 9
Oils, Fats & Soaps	= 8
For research leading to M.Sc., (Tech. or Ph.D.)	= 20

In addition to the above, 20 students should be admitted each year to a Chemical Engineering Degree courses which should be introduced immediately and run in collaboration with the V.J.T.I..

(VII) Lakshminarayan Institute, of Technology, Nagpur.

The Institution should admit 72 I.Sc. students to the revised four-year B.Sc(Tech.) Degree course and 12 students for research leading to degrees of M.Sc., Ph.D. or D.Sc.

The Committee endorsed the Scrutinising .....

Committee's view that the Government of India should inform the Institution that in the opinion of the All-India Council for Technical Education, frequent changes in the senior staff as seem to have taken place in this Institutions cannot be conductive to its proper growth.

Dr. Jha reported that although the Institution has been established with private endowment, it was under the administrative control of the Nagpur University. The Committee directed that this should be verified and the Institution treated as a University or a non-University Institution as the case might be.

(VIII) Department of Applied Chemistry, University College of Science and Technology, Calcutta University.

The annual intake of students to the M.Sc. course should be 36 and to the special diploma course 20. The number of research workers should be increased from 25 to 50. The Committee approved of the proposal for the introduction of new sections of Plastics and Chemical Engineering.

(IX) Department of Applied Physics, University College of Science and Technology, Calcutta University.

The Committee approved of the proposal for splitting up this Department into two Departments namely, the Department of Applied Physics and a new Department of Radio Physics and Electronics and recommended that the annual admission to the M.Sc. course in Applied Physics should be 40 and that there should be provision for 16 research students.

It was also recommended that the capital and recurring grants to the Applied Physics Department should be 2.15 lakhs and 0.5 lakhs respectively.

The annual admission to the new Department of Radio Physics and Electronics should be 20 and there should be provision for 8 research workers. The Committee recommended that the capital and recurring grants for this new Department should be Rs.5.47 and Rs. 0.792 lakhs respectively.

(X) (i) Jaipur Vikram Deo College, Andhra University.

The Committee approved of the proposal to split up the Department of Chemical Technology into two Departments, namely, the Department of Chemical Technology and a new Department of Pharmacy and recommended that grants should be made available for strengthening these two Departments.

The annual intake should be 21 students for degree courses in the Department of Chemical Technology and 18 students for the degree courses in Pharmacy and there should be provision for three research workers in Pharmaceutics.

The Committee felt that the Department of Chemistry did not come within their purview.

(XI) Alagappa Chettiar College of Technology, Madras University.

The Department of Chemical Technology should admit 30 students per year.

It was decided not to recommend any grant for the Leather Technology Department since a recurring annual grant is made to this Department by the Council of Scientific and Industrial Research.

It was also decided that no capital grant should be made to the Textile Technology Department since the Department formed part of the Government Textile Institute. A recurring grant of Rs.40,000 was, however, recommended for this Department to enable the University to appoint Professors and other necessary staff.

Government agree to make the two thirds of the grant which the Committee recommends in the following paragraph:-

(XIV) Dayalbagh Technical College, Agra.

The annual admission should be 60 students, i.e. 30 in Mechanical and 30 in Electrical Engineering Degree courses.

The authorities of this institutions should also raise sufficient funds to meet atleast a third of the estimated capital and recurring cost required to strengthen this Institution before the Central Government gives the grant amounting to two thirds of the development cost as recommended by the Committee.

12. Capital and Recurring Grants and Interest free loans.

The Committee then considered the financial implications of the above recommendations. The detailed calculations will be seen in Annexure III. A summary of the grants which the Committee recommends is given below :-

Sl. No.	Institution	Capital grant in lakhs of rupees. Bulding	Equipment	Ultimate Recurring grant in lakhs	Interest free loan for hostels.
1	2	3		4	5
i.	Engineering College, Banaras Hindu University	3.12	16.87	5.12	3.96
II.	Jadavpur Engineering College.	5.38	24.00	6.48	14.175
III.	V.J.T.I. Bombay	7.60	9.87	2.06	4.340
IV.	College of Mining and Metallurgy, Banaras Hindu University.	3.11	6.85	1.53	3.17
V.	College of Technology, Banaras Hindu University	1.30	4.20	2.08	2.18
VI.	Dept. of Chemical Technology Bombay University.	3.34	3.06	1.07	3.24
VII.	Laxminarayan Tech. Inst., Nagpur.	5.07	1.50	0.47	1.39

(XII) College of Engineering, Muslim University, Aligarh.

For the next four or five years or until the institution was properly developed and organised, admissions to this College should be 90 students only, i.e. 30 in each of the Departments of Civil, Mechanical and Electrical Engineering.

The Committee noted with regret that this Engineering College, although forming a part of the Central University, was very poorly equipped in the matter of staff and equipment. The Ministry of Education should, therefore, be asked to note the unfavourable comments made by the Visiting Committees appointed by the All-India Council for Technical Education.

As already mentioned the Committee was of the opinion that the authorities of the Institution should be asked to raise sufficient funds to meet atleast one third of the Capital and recurring expenditure required to strengthen the College before the Central Government consider giving any further grant to this institution. The Committee were emphatic that the Central Government should make sure that a third of the Capital and recurring cost involved for strengthening this Institution has been raised by the University authorities before they make any further grant.

It may be noted that the grant recommended by the Committee constitutes in their opinion, two thirds of the total capital and recurring expenditure and interest-free loan required for strengthening this institution.

(XIII) College of Engineering, Annamalai University.

The annual admission for the next five years should be 60 students, i.e. 30, 15 and 15 in Civil, Mechanical and Electrical Engineering Departments respectively. Here also, the University authorities should raise a third of the capital and recurring cost involved before the Central ...

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1	2	3	4	5	6
VIII.	Dept. of Applied Chemistry Calcutta University.	4.52	2.81	1.202)	3.00
IX.	Dept. of Applied Physics and Radio & Electronics, Calcutta University.	5.25	2.38	1.29)	
X.	Jaipur Vikram Deo College, Andhra University.	3.20	2.27	0.70	
XI.	Alagappa Chettiar College, Madras.	2.50	2.50	0.60 For Chem.Technology Deptt. 0.40 For Textile Technology Deptt.	
Total for I to XI.		44.39	76.31	23.022	35.455
XII.*	Engineering College, Aligarh.	2.14	10.813	1.92	3.96
XIII*	Engineering College, Annamalai.	3.33	7.33	1.28	2.64
XIV*	Dayalbagh Technical College, Agra.	3.00	7.06	1.28	2.0
X	Total for XII to XIV	8.47	25.203	4.48	8.60
Grand Total		52.86	101.513	27.502	44.055

* In the case of these institutions grants etc. have been calculated at 66.6% of the total estimated cost of development.

Item III. To report the action taken by the Government of India on the recommendations made by the Co-ordinating Committee at its third meeting held on May 27 and 28, 1947 and by the All India Council for Technical Education at its second meeting held on May 29 and 30, 1947.

13. It was decided to record the information.

Item IV. To receive and consider a note on the activities of the All India Boards of Technical Studies.

14. It was decided to record the information.

It was suggested by a few members that supplementary examinations might be held. Since the number of candidates involved was extremely small, the Committee decided to postpone the consideration of this issue until a later date.

The Committee endorsed the views of the Boards of Engineering and of Chemical Technology, that a second examination should not be held for those candidates who failed to appear at the last examination and that such candidates may be permitted to take the next examination in the normal course.

Item V. To consider the draft of a memorandum to be submitted to the Inter-University Board on the subject of collaboration between the All India Council for Technical Education and the Board.

15. The draft memorandum for submission to the Inter-University Board on the subject of collaboration between the All-India Council for Technical Education and the Board was approved and the Secretary was directed to issue it immediately to the Secretary of the Inter-University Board.

Item VI. To receive the interim report of the Scientific Man-Power Committee.

16. The Committee expressed its appreciation of the Interim Report of the Scientific Man-Power Committee and its agreement in principle with the recommendations made in that report. The Committee further recommended that the Government of India should take immediate steps for the implementation of these recommendations.

Item VII. To consider the question of reconstitution of the All India Boards of Technical Studies on the expiry of their present term on the 31st December, 1947.

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17. It was noted that the All-India Boards of Technical Studies have to be re-constituted on the 1st. of January, 1948. The Chairman was authorised to select the specialists to be nominated by the Co-ordinating Committee on each of these Boards. It was further decided that any member of the Co-ordinating Committee who had names to suggest should intimate to the Secretary before the 31st. December, 1947.

Item VIII. To receive and consider a letter dated the 15th July, 1947, from Col. Beeching Special Officer, Technical and Vocational Education Department, Hyderabad (Deccan), on the question of establishment of 'Engineers Council for Professional Development' in India, and to make recommendations.

18. The Committee considered the issue raised in Col. Beeching's letter but regretted that the question of professional ethics was a matter which the Institution of Engineers (India) was the competent body to deal with and not the All-India Council for Technical Education.

Item IX. To report that Sir J.C.Ghosh, Director, Indian Institute of Science, Bangalore, has been nominated to represent the All India Council for Technical Education on the General Council of the Indian Standards Institution set up by the Department of Industries and Supplies.

19. The Committee approved of the nomination of Sir J.C. Ghosh to the Indian Standards Institution as a representative of the All-India Council for Technical Education.

Item X (a) To consider letter No. 1205E dated the 14th October 1947 from the Government of East Punjab on the subject of location of the Northern Higher Technical Institution.

20. It was felt that consideration of the question of location of the northern higher technical institution was premature since the Government of India have decided to set up only two out of the four higher technical institutions within the first quinquennium. In any case, the matter could be considered only after the East Punjab Government had established themselves and had decided the location of their capital.

Item X (b) To receive a note on the discussion between Major D.L.Deshpande, (the representative of the All India Council for Technical Education on the Training Sub-Committee of the Central Employment Advisory Committee) and Mr. S.N.Roy Director of Training, D.G.R. & E held on 5th June 1947.

21. It was decided to record the information.

Item X (c) To consider a note on the formation of Regional Committees of the All India Council for Technical Education and to make necessary recommendations.

22. The Committee noted the views expressed by the various provinces and States on the question of formation of the Regional Committees of the All-India Council for Technical Education and decided that the composition of the regions should be as follows :-

Northern Region - East Punjab, U.P., Delhi, Central India and Rajputana States and Kashmir & Jammu States when the latter had finally acceded to the Indian Union.

Eastern Region - Assam, West Bengal, Bihar, Orissa, Tripura and the other Eastern India States.

Southern Region - Madras, Mysore and the other South India States and the Hyderabad State if the latter accedes to the India Union.

Western Region - Bombay, Central Provinces, and Berar and the Western India States,

The Committee desired that the Government of India should set up these Committees at an early date in consultation with the Provincial Governments.

Item X (d) To consider the question of selection of a site near Calcutta for the Eastern Higher Technical Institution.

23. The Committee noted that the Ministry of Railways had decided not to locate the Locomotive Workshop at Kanchrapara, where a site in proximity to the site reserved for the workshop had been provisionally selected for the Eastern Higher Technical Institution. The Committee expressed the opinion that it did not appear to be particularly desirable to locate the Eastern Higher Technical Institution at the Kanchrapara site now and suggested that the Government of India should request the Government of West Bengal to acquire a piece of land

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measuring at least 600 acres within a radius of ten miles from Calcutta - the site to have adequate facilities for water and electric supply. Pandit Govind Malaviya wished it to be recorded that he was apposed to locating the Eastern Higher Technical Institution so near Calcutta which is very close to the frontier between India and Eastern Pakistan. The Committee, however recognised that the final decision regarding the selection of sites within the convenient reach of the industrial area of Calcutta should rest with the Government of India.

Item X (e) To consider suitable abbreviations for the All India Diplomas in various subjects which the diploma holders may be permitted to affix to their names.

24. It was decided to postpone the consideration of this item to a later date.

Item X (f) To report the appointment of Major D.L. Deshpande Principal, Engineering College, Travancore University as a representative of the All India Council for Technical Education on the Standing Advisory Committee on Power Engineering of the Indian Institute of Science, Bangalore.

25. The Committee approved of the appointment of Major D.L.Deshpande on the standing Advisory Committee on Power Engineering of the Indian Institute of Science. Bangalore as a representative of the All India Council for Technical Education

26. The Chairman mentioned that Sir John Sargent, the Educational Adviser to the Government of India, and a member of the All-India Council for Technical Education and the Co-ordinating Committee was due to proceed on leave preparatory to retirement on the 19th November, 1947. Members spoke eloquently of the yeoman service which Sir John had rendered to the cause of education in India and in particular to the

establishment of the All-India Council for Technical Education and its development. The Committee decided to place on record their appreciation of the work of Sir John Sargent in and outside the Committee for the promotion and co-ordination of higher technical education in India.

27. The meeting then terminated with a vote of thanks to the Chair.

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Annexure 1

Co-ordinating Committee
of the
All India Council for Technical Education.

Fourth Meeting.

Place: New Delhi. Date: 15th November 1947.

AGENDA

1. To report that the proceedings of the third meeting of the Co-ordinating Committee held at Bangalore on the 27th and 28th May, 1947, were confirmed by circulation to members. The proceedings were considered by the All India Council for Technical Education at its second meeting held on the 29th and 30th May, 1947.

2. To receive and consider the report of the Sub-Committee appointed by the Co-ordinating Committee to scrutinise the reports of the Visiting Committees and to make recommendations for grants to the institutions concerned.

3. To report the action taken by the Government of India on the recommendations made by the Co-ordinating Committee at its third meeting held on May 27 and 28, 1947 and by the All India Council for Technical Education at its second meeting held on May 29 and 30, 1947.

4. To receive and consider a note on the activities of the All India Boards of Technical Studies.

5. To consider the draft of memorandum to be submitted to the Inter-University Board on the subject of collaboration between the All India Council for Technical Education and the Board.

6. To receive the interim report of the Scientific Man-Power Committee.

Annexure II

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Proceedings of the Scrutinising Committee of the All-India Council for Technical Education held at New Delhi on the 14th November, 1947.

The All-India Council for Technical Education at its second meeting held at Bangalore in May 1947, while considering the reports of the Visiting Committees appointed to inspect some of the technical institutions in the country, had agreed with the recommendations of the Co-ordinating Committee arising out of these reports, that more Visiting Committees should be appointed to visit and inspect the

(1) Jaipur Vikram Deo College of Science and Technology, Waltair, Andhra University.

(2) Chemical Technology Dept., of the Madras University.

(3) Departments of Applied Physics and Applied Chemistry of the University College of Science and Technology, Calcutta University and

(4) Lakshminarayan Institute of Technology, Nagpur University.

in addition to the seven institutions already visited; and that a small scrutinising committee should scrutinize the recommendations of the Visiting Committees and submit for consideration of the Co-ordinating Committee specific recommendations for strengthening and improvement of each of the institutions reported upon.

The following Scrutinising Committees was appointed:-

Mr. N.R. Sarker - Chairman.

Sir S.S. Bhatnagar.
Sir J.C. Ghosh.
Mr. G.L. Mehta.
Mr. N.V. Modak.
Sir A.L. Mudaliar.
Sir John Sargent.
Dr. S.R.Sen Gupta - Secretary.

2. The Committee met at New Delhi on the 14th November 1947 under the Chairmanship of Mr. N.R. Sarker.

The following members were present :-

Mr. N.R.Sarker - Chairman.
Sir J.C. Ghosh.
Mr. N.V. Modak.
Dr. S.R.Sen Gupta - Secretary.

Dr. D.M. Sen of the Ministry of Education attended on behalf of Sir John Sargent, Educational Adviser to the Government of India.

Sir S.S. Bhatnagar, Mr. G.L.Mehta, Sir A.L.Mudaliar and Sir John Sargent were unable to attend.

3. The Committee had before them the Visiting Committee's reports on the following:-

(1) College of Engineering and Technology,Jadavpur.

(2) Victoria Jubilee Technical Institute, Bombay.

(3) Department of Chemical Technology, Bombay University.

(4) Engineering College, Benares Hindu University.

(5) College of Mining and Metallurgy, Benares Hindu University.

(6) College of Technology, Benares Hindu University.

(7) Dayalbagh Technical College, Agra.

(8) College of Engineering & Technology, Muslim University, Aligarh.

(9) College of Engineering, Annamalai University.

(10) Lakshminarayan Institute of Technology, Nagpur University.

(11) Department of Applied Chemistry, College of Science and Technology, University of Calcutta.

(12) Department of Applied Physics, College of Science and Technology, University of Calcutta.

(13) Jaipur Vikram Deo College of Science and Technology, Waltair, Andhra University.

The Visiting Committee's report on the Alagappa Chettiar College of Chemical Technology, Madras University, was not available. Sir J.C. Ghosh, the Chairman of the Committee had however examined the development plans of the institution and had discussed them with the head of the institution and was able to give his views in the matter of financial assistance which the institution should receive.

4. (a) Accommodation and Equipment.

At the outset the Committee considered the minimum requirements in respect of building space, equipment, library etc. and came to the conclusion that a good Engineering College should have a minimum floor area calculated on the basis of 00 sq.ft. per student and that the value of equipment,library

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facilities, etc. should come up to Rs. 5000 per student at the present market value.

(b) Cost of Education.

In the matter of cost of education, the Committee was of the view that it should amount ot approximately Rs.1000 per student per annum for Engineering and Rs. 1,200 per annum per student for Chemical Technology and Chemical Engineering Degree courses.

(c) Hostel.

As regards hostel accommodation, the Committee was of the opinion that provision should be made at the rate of 150 sq.ft. per hostel seat and Rs. 150 per seat for furniture and fittings. Assistance given for the purpose of providing hostels should be in the nature of an interest free loan repayable to the Government within 33 years.

(d) Staff quarters.

The Committee was not in favour of granting any loan for building staff quarters for the present.

(e) Building cost.

It was agreed that except for Calcutta and Bombay the cost of the College building should be calculated at the rate of Rs. 12/8/- per sq.ft. and that of hostel buildings at the rate of Rs. 10/- per sq.ft. For Calcutta and Bombay, the figures should be Rs. 15/- and Rs. 12/8/- per sq.ft. respectively. In the case of post-graduate institutions, an additional provision at the rate of Rs. 5/- per sq.ft. should be made towards the cost of fittings and furnishing of the post-graduate department.

5. Relative Merits of Institutions.

The Committee then considered the relative merits of the respective institutions from the point of view of granting financial assistance for strengthening them. They came to the conclusion that of the 14 institutions, the following 3 namely the Annamalai University Engineering College, the Aligarh University Engineering College, and the Dayalbagh Technical

3/

College should be treated on a different footing from the rest for the reason that not much progress has been made with the Annamalai University College and the Aligarh Engineering College, whereas the Dayalbagh Technical College, although a good one of its kind, required to be strengthened considerably to bring it to the standard of an Engineering College. It was decided that grants should be made to the above three institutions only if they can raise funds to meet at least a third of the capital and recurring cost involved in bringing these institutions up to the requisite standard as indicated above.

6. Conditions for grant.

The Committee then considered the conditions under which grants may be made and came to the conclusion that the grants should be subject to the following general conditions:-

(i) Syllabuses of studies shall be in harmony with the pattern adopted by the All India Council for Technical Education.

(ii)

(iii) In the matter of appointment of staff for non-University Institutions, independent experts shall be included in the Selection Committees with the approval of the All India Council for Technical Education.

In the case of Colleges or Departments under the Administrative control of the Universities, the appointment of staff shall be made by the Selection Committees of the Universities with the approval of the Inter-University Board.

(iii) Equipment for various laboratories shall be generally as prescribed by the All India Council for Technical Education.

(iv) Grant given under one head shall not be used for purposes other than that for which it is intended except withthe approval of the All India Council for Technical Education.

(v) A Visiting Committee or Inspector appointed by the All India Council for Technical Education shall periodically visit the non-University Institutions receiving grants from the Central Government report and to the Council whether the grants given by the Government are being properly utilised. In the case of University Departments or Institutions administered directly by the Universities, the University concerned shall appoint visiting committees in consultation with the University Grants Committee to visit annually the Institutions receiving grants from the Central Government and report whether the grants given by the Government were being properly utilised. Such reports shall be made available to the All India Council for Technical Education.

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(vi) Where degree courses as well as diploma courses of a definitely lower standard than the degree in the same subject are being taught, the Diploma courses shall either be discontinued or dissociated from the College or Institution receiving grant, so that no portion of the capital or recurring grant is utilised either directly or indirectly except for the promotion of higher technical education.

(vii) Recipients of recurring grants shall bring the scales of salaries of teaching staff and their qualifications to the level recommended by the Central Government within three years from the date which the grant is first made.

(viii) In the case ofnon-University Institutions, the appointment of Professors or Heads of Departments shall be subject to the approval of the All India Council for Technical Education. The placing of the present incumbents on Professional status or the status of Heads of Departments carrying the salaries prescribed by the Central Government shall also be subject to the approval of the Council in the case of non-University Institutions.

(ix) The Government shall determine the quota for each province for purposes of admissions to the Institutions concerned, especially to those additional seats which may be provided as a direct result of the grant from the Central Government.

(x) Capitation fees shall not be charged in respect of the students admitted under the quota system fixed by the Central Government.

(xi) The Central Government shall have at least two seats for its nominees on the Managing Committee or the Governing Body of non-university institutions and the All India Council for Technical Education shall also have two seats thereon. In the case of Institutions or Departments administered by a University direct, the Central Government and the All India Council for Technical Education shall have the right to nominate one member each on the Advisory Committee or the Committee of Management.

(xii) The number of students to be admitted each year and the total strength of the student population of the College or Institution shall not exceed the number which may be fixed from time to time by the All India Council for Technical Education.

7. Spread of Grants.

The Committee expressed the view that the grants may be spread over a period of four years as indicated below.

(a) The entire amount of grant for buildings should be spread over three years ending in the financial year 1949-50.

(b) The grant for equipment may be spread over four years, i.e. up to the year 1950-51 in the following manner:-

5	per cent in the year	1947-48
15	"	1948-49
60	"	1949-50
20	"	1950-51

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(c) The recurring grant should be so arranged that in the fifth year, i.e. in the year 1951-52, the institution should be receiving the maximum grant recommended. This may be spread as follows :-

In the year	1947-48	- 20	per cent.
"	1948-49	40	"
"	1949-50	60	"
"	1950-51	80	"
"	1951-52	100	"

The above allocation is, however, purely tentative and may be changed so as to enable the institutions to recruit competent staff immediately wherever necessary.

8. Grants to University Institutions.

It was agreed that until the scope of the University Grants Committee is extended the Ministry of Education should be requested to take immediate action to see that grants recommended for the non-Central University Institutions are made immediately. There was, however, no objection to acquainting the University Grants Committee with the action which the Ministry of Education may take in respect of grant to the non-Central Universities. In case of Departments or constituent College of the Central Universities, it was appreciated that the Ministry of Education will be free to take such action as they may consider appropriate.

9. Annual Intakes.

The Committee then considered the Visiting Committees reports for each institution so as to fix the number of annual intakes and the financial assistance necessary for each institution.

I. College of Engineering, Benares Hindu University.

The number of annual admissions to the Engineering College should be limited to 160; 80 each in the Mechanical and Electrical Engineering Degree courses for the present, Later on the numbers may be changed to 60, 60 and 40 for Mechanical, Electrical and Civil Engineering Diploma Courses respectively when in the opinion of the Council the College has been sufficiently strengthened.

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II. College of Engineering and Technology, Jadavpur.

The annual admission to Degree courses should be limited to 200 (80 Mech. Engineering, 60 Electrical Engineering & 60 Chemical Engineering) and the grant should be made to the Institution on the distinct understanding that the Institution would either discontinue the junior courses and the agricultural courses or provide these courses in an entirely separate institution within a period of three years from the receipt of the first grant.

III. Victoria Jubilee Technical Institute:

It was agreed that the Institution should have 20 additional seats for the combined Mechanical & Electrical Degree courses and 10 additional seats for the Textile Manufacturing Degree course. Civil Engineering Degree course should also be introduced with an annual intake of 50 students and a Chemical Engineering Degree course for 20 students in collaboration with the Bombay University Chemical Technology Department.

IV. College of Mining & Metallurgy, Benares Hindu University:

The Committee was of the view that annual admission to this College should be as follows:-

Mining	-16
Metallurgy	-32

The Committee also expressed the opinion that since the production of synethetic fuel and the maximum utilization of natural fuel were of supreme importance, the Government of India should take steps to set up a Government institution under their own control for the training of fuel technologists rather than leave this important branch of study to be tackled by non-government institutions.

V. College of Technology, Benares Hindu University.

The Committee was not in favour of recommending any financial assistance for the Ceramics and the Glass Technology Department of this institution. They agreed that the Pharmaceutics and the Industrial Chemistry Departments of this institution should be strengthened and that the annual intakes to these

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courses should, for the time being, be limited to 22 and 30 respectively.

VI. Department of Chemical Technology, University of Bombay.

The Committee agreed that provision should be made for the following additional seats:

Textile Chemistry	-	18
Plastics, Paints & Varnishes.	-	9
Oils, Fats & Soaps	-	8
Research students altogether		20

In addition to the above 20 students should be admitted each year to the Chemical Engineering Degree course, the course to be run in collaboration with the Victoria Jubilee Technical Institute.

VII. Lakshminarayan Institute of Technology, Nagpur.

The Committee agreed that the annual intake to the B.Sc.(Tech) course and for research should be 72 and 12 respectively. The Committee, however, wished it to be conveyed to the Institution that, in their opinion, frequent changes in the senior staff as seem to be taking place in this institution cannot be conducive to the proper growth of the Institution.

VIII. Department of Applied Chemistry, Calcutta University.

The Committee agreed that the annual intake of students to the M.Sc. course should be 36, to the Soap-Diploma course 10 and the number of research students should be increased to 50. They were in favour of introduction of new sections of Plastics and of Chemical Engineering.

IX. Department of Applied Physics, Calcutta University.

The Committee suggested the splitting up of this Department into two departments, namely, the Department of Applied Applied Physics and a new Department of Radio Physics and Electronics. The Committee agreed that the annual admission to M.Sc. course should be limited to 40 and that there should be provision for 16 research students. The Committee were of the opinion that the capital grant to the AppliedPhysics

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Department should be limited to 2.15 lakhs and the recurring grant to 0.5 lakhs.

For the new Department of Radio Physics and Electronics, the annual intake to M.Sc. courses should be 20 and there should be 8 research students. The Committee are of the opinion that capital grant for this new Department should amount to 5.47 lakhs and the recurring grant to 0.792 lakhs.

X. Jaipur Vikram Deo College of Science and Technology, Andhra University.

The Committee were not in favour of giving any grant to the Department of Chemistry and they agreed with the Visiting Committee that the Department of Chemical Technology should be split into two departments, namely, the Department of Chemical Technology and the Department of Pharmacy and that grants should be made for the strengthening of these two departments. The Committee agreed that the annual intake of the Chemical Technology Department should be 21 and that of the Pharmaceutics Department 18 and the latter should have at least three research students.

XI. Allagapa Chettiar College of Technology, Madras University.

The Committee agreed with the view expressed by Sir J.C. Ghosh that the annual admission to this Department should be 30 per year and that the Institution should be given a capital grant of Rs. 5 lakhs for buildings and equipment and a recurring grant of Rs. 60,000 per year. The Committee was not in favour of giving any grant to the Leather Technology Department which is receiving an annual grant of Rs. 50,000 from the Council of Scientific and Industrial Research. The Committee was also not in favour of giving any capital grant to the Textile Technology Department since the Department forms a part of the Government Textile Institute, but recommended that to enable the University to appoint professors and other necessary staff an annual recurring grant of Rs. 40,000 should be made to this Department.

XII. College of Engineering, Muslim University, Aligarh.

The Committee noted with regret that this Engineering College although forming a part of a Central University, was

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very poorly equipped in the matter of staff and equipment and desired that the Ministry of Education's attention should be drawn to the unfavourable comments made by the Visiting Committee. The Committee was definitely of the view that for the next four or five years or until the Institution has been properly developed, the admission to this College should be strictly limited to 90 students, 30 in Civil Engineering, 30 in Mechanical Engineering and 30 in Electrical Engineering. The University authorities must secure priviate benefactions to the extent of a third of the estimated capital and recurring cost as calculated before the Central Government makes any further grant to this institution.

XIII. Engineering College, Annamalai University:

Here again the Committee was definitely of the view that the annual admission to the institution should be strictly limited to 60 students, 30 in Civil Engineering, 15 in Mechanical Engg. and 15 in Electrical Engineering for the next five years and that the University must secure benefaction to the value of a third of the recurring and the capital cost involved to bring the Institution to a proper footing before the Central Government makes any grant to this Collegel

XIV. Dayalbagh Technical College, Agra:

The Committee agreed that the annual admission to the degree course should be limited to 60 students (30 Mechl. 30 Electrical Engineering). The authorities of this institution must secure private benefactions to the extent of a third of the estimated capital and recurring cost as calculated before the Central Government makes any grant to this institution.

10. A summary of the foregoing recommendations in respect of capital and recurring grants for each institution together with detailed calculations will be found in Annexure 'I'.

A statement of the total financial implications of the recommendations made by the Scrutinising Committee is given in Annexure 'II'.

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Annexure II.

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Proceedings of the Scrutinising Committee of the All-India Council for Technical Education held at New Delhi on the 14th November, 1947.

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in addition to the seven institutions already visited; and that a small scrutinising committee should scrutinize the recommendations of the Visiting Committees and submit for consideration of the Co-ordinating Committee specific recommendations for strengthening and improvement of each of the institutions reported upon.

The following Scrutinising Committees was appointed:-

Mr. N.R. Sarker - Chairman.

Sir S.S. Bhatnagar.
Sir J.C. Ghosh.
Mr. G.L. Mehta.
Mr. N.V. Modak.
Sir A.L. Mudaliar.
Sir John Sargent.
Dr. S.R.Sen Gupta - Secretary.

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The following members were present :-

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Dr. D.M. Sen of the Ministry of Education attended on behalf of Sir John Sargent, Educational Adviser to the Government of India.

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(11) Department of Applied Chemistry, College of Science and Technology, University of Calcutta.

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4. (a) Accommodation and Equipment.

At the outset the Committee considered the minimum requirements in respect of building space, equipment, library etc. and came to the conclusion that a good Engineering College should have a minimum floor area calculated on the basis of 200 sq.ft. per student and that the value of equipment, library

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facilities, etc. should come up to Rs. 5000 per student at the present market value.

(b) Cost of Education.

In the matter of cost of education, the Committee was of the view that it should amount to approximately Rs.1000 per student per annum for Engineering and Rs. 1,200 per annum per student for Chemical Technology and Chemical Engineering Degree courses.

(c) Hostel.

As regards hostel accommodation, the Committee was of the opinion that provision should be made at the rate of 150 sq.ft. per hostel seat and Rs. 150 per seat for furniture and fittings. Assistance given for the purpose of providing hostels should be in the nature of an interest free loan repayable to the Government within 33 years.

(d) Staff quarters.

The Committee was not in favour of granting any loan for building staff quarters for the present.

(e) Building cost.

It was agreed that except for Calcutta and Bombay the cost of the College building should be calculated at the rate of Rs. 12/8/- per sq.ft. and that of hostel buildings at the rate of Rs. 10/- per sq.ft. For Calcutta and Bombay, the figures should be Rs. 15/- and Rs. 12/8/- per sq.ft. respectively. In the case of post-graduate institutions, an additional provision at the rate of Rs. 5/- per sq.ft. should be made towards the cost of fittings and furnishing of the post-graduate department.

5. Relative Merits of Institutions.

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College should be treated on a different footing from the rest for the reason that not much progress has been made with the Annamalai University College and the Aligarh Engineering College, whereas the Dayalbagh Technical College, although a good one of its kind, required to be strengthened considerably to bring it to the standard of an Engineering College. It was decided that grants should be made to the above three institutions only if they can raise funds to meet at least a third of the capital and recurring cost involved in bringing these institutions up to the requisite standard as indicated above.

6. Conditions for grant.

The Committee then considered the conditions under which grants may be made and came to the conclusion that the grants should be subject to the following general conditions:-

(i) Syllabuses of studies shall be in harmony with the pattern adopted by the All India Council for Technical Education.

(ii)

(iii) In the matter of appointment of staff for non-University Institutions, independent experts shall be included in the Selection Committees with the approval of the All India Council for Technical Education.

In the case of Colleges or Departments under the Administrative control of the Universities, the appointment of staff shall be made by the Selection Committees of the Universities with the approval of the Inter-University Board.

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(vi) Where degree courses as well as diploma courses of a definitely lower standard than the degree in the same subject are being taught, the Diploma courses shall either be discontinued or dissociated from the College or Institution receiving grant, so that no portion of the capital or recurring grant is utilised either directly or indirectly except for the promotion of higher technical education.

(vii) Recipients of recurring grants shall bring the scales of salaries of teaching staff and their qualifications to the level recommended by the Central Government within three years from the date which the grant is first made.

(viii) In the case ofnon-University Institutions, the appointment of Professors or Heads of Departments shall be subject to the approval of the All India Council for Technical Education. The placing of the present incumbents on Professional status or the status of Heads of Departments carrying the salaries prescribed by the Central Government shall also be subject to the approval of the Council in the case of non-University Institutions.

(ix) The Government shall determine the quota for each province for purposes of admissions to the Institutions concerned, especially to those additional seats which may be provided as a direct result of the grant from the Central Government.

(x) Capitation fees shall not be charged in respect of the students admitted under the quota system fixed by the Central Government.

(xi) The Central Government shall have at least two seats for its nominees on the Managing Committee or the Governing Body of non-university institutions and the All India Council for Technical Education shall also have two seats thereon. In the case of Institutions or Departments administered by a University direct, the Central Government and the All India Council for Technical Education shall have the right to nominate one member each on the Advisory Committee or the Committee of Management.

(xii) The number of students to be admitted each year and the total strength of the student population of the College or Institution shall not exceed the number which may be fixed from time to time by the All India Council for Technical Education.

7. Spread of Grants.

The Committee expressed the view that the grants may be spread over a period of four years as indicated below.

(a) The entire amount of grant for buildings should be spread over three years ending in the financial year 1949-50.

(b) The grant for equipment may be spread over four years, i.e. up to the year 1950-51 in the following manner:-

5	per cent in the year	1947-48
15	"	1948-49
60	"	1949-50
20	"	1950-51

(c) The recurring grant should be so arranged that in the fifth year, i.e. in the year 1951-52, the institution should be receiving the maximum grant recommended. This may be spread as follows :-

In the year	1947-48	- 20 per cent.
"	1948-49	40 "
"	1949-50	60 "
"	1950-51	80 "
"	1951-52	100 "

The above allocation is, however, purely tentative and may be changed so as to enable the institutions to recruit competent staff immediately wherever necessary.

8. Grants to University Institutions.

It was agreed that until the scope of the University Grants Committee is extended the Ministry of Education should be requested to take immediate action to see that grants recommended for the non-Central University Institutions are made immediately. There was, however, no objection to acquainting the University Grants Committee with the action which the Ministry of Education may take in respect of grant to the non-Central Universities. In case of Departments or constituent College of the Central Universities, it was appreciated that the Ministry of Education will be free to take such action as they may consider appropriate.

9. Annual Intakes.

The Committee then considered the Visiting Committees reports for each institution so as to fix the number of annual intakes and the financial assistance necessary for each institution.

I. College of Engineering, Benares Hindu University.

The number of annual admissions to the Engineering College should be limited to 160; 80 each in the Mechanical and Electrical Engineering Degree courses for the present, Later on the numbers may be changed to 60, 60 and 40 for Mechanical, Electrical and Civil Engineering Diploma Courses respectively when in the opinion of the Council the College has been sufficiently strengthened.

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II. College of Engineering and Technology, Jadavpur.

The annual admission to Degree courses should be limited to 200 (80 Mech. Engineering, 60 Electrical Engineering & 60 Chemical Engineering) and the grant should be made to the Institution on the distinct understanding that the Institution would either discontinue the junior courses and the agricultural courses or provide these courses in an entirely separate institution within a period of three years from the receipt of the first grant.

III. Victoria Jubilee Technical Institute:

It was agreed that the Institution should have 20 additional seats for the combined Mechanical & Electrical Degree courses and 10 additional seats for the Textile Manufacturing Degree course. Civil Engineering Degree course should also be introduced with an annual intake of 50 students and a Chemical Engineering Degree course for 20 students in collaboration with the Bombay University Chemical Technology Department.

IV. College of Mining & Metallurgy, Benares Hindu University:

The Committee was of the view that annual admission to this College should be as follows:-

Mining	-16
Metallurgy	-32

The Committee also expressed the opinion that since the production of synethetic fuel and the maximum utilization of natural fuel were of supreme importance, the Government of India should take steps to set up a Government institution under their own control for the training of fuel technologists rather than leave this important branch of study to be tackled by non-government institutions.

V. College of Technology, Benares Hindu University.

The Committee was not in favour of recommending any financial assistance for the Ceramics and the Glass Technology Department of this institution. They agreed that the Pharmaceutics and the Industrial Chemistry Departments of this institution should be strengthened and that the annual intakes to these

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courses should, for the time being, be limited to 22 and 30 respectively.

VI. Department of Chemical Technology, University of Bombay.

The Committee agreed that provision should be made for the following additional seats:

Textile Chemistry	-	18
Plastics, Paints & Varnishes.	-	9
Oils, Fats & Soaps	-	8
Research students altogether		20

In addition to the above 20 students should be admitted each year to the Chemical Engineering Degree course, the course to be run in collaboration with the Victoria Jubilee Technical Institute.

VII. Lakshminarayan Institute of Technology, Nagpur.

The Committee agreed that the annual intake to the B.Sc.(Tech) course and for research should be 72 and 12 respectively. The Committee, however, wished it to be conveyed to the Institution that, in their opinion, frequent changes in the senior staff as seem to be taking place in this institution cannot be conducive to the proper growth of the Institution.

VIII. Department of Applied Chemistry, Calcutta University.

The Committee agreed that the annual intake of students to the M.Sc. course should be 36, to the Soap-Diploma course 10 and the number of research students should be increased to 50. They were in favour of introduction of new sections of Plastics and of Chemical Engineering.

IX. Department of Applied Physics, Calcutta University.

The Committee suggested the splitting up of this Department into two departments, namely, the Department of Applied Physics and a new Department of Radio Physics and Electronics. The Committee agreed that the annual admission to M.Sc. course should be limited to 40 and that there should be provision for 16 research students. The Committee were of the opinion that the capital grant to the Applied Physics

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Department should be limited to 2.15 lakhs and the recurring grant to 0.5 lakhs.

For the new Department of Radio Physics and Electronics, the annual intake to M.Sc. courses should be 20 and there should be 8 research students. The Committee are of the opinion that capital grant for this new Department should amount to 5.47 lakhs and the recurring grant to 0.792 lakhs.

X. Jaipur Vikram Deo College of Science and Technology, Andhra University.

The Committee were not in favour of giving any grant to the Department of Chemistry and they agreed with the Visiting Committee that the Department of Chemical Technology should be split into two departments, namely, the Department of Chemical Technology and the Department of Pharmacy and that grants should be made for the strengthening of these two departments. The Committee agreed that the annual intake of the Chemical Technology Department should be 21 and that of the Pharmaceutics Department 18 and the latter should have at least three research students.

XI. Allagapa Chettiar College of Technology, Madras University.

The Committee agreed with the view expressed by Sir J.C. Ghosh that the annual admission to this Department should be 30 per year and that the Institution should be given a capital grant of Rs. 5 lakhs for buildings and equipment and a recurring grant of Rs. 60,000 per year. The Committee was not in favour of giving any grant to the Leather Technology Department which is receiving an annual grant of Rs. 50,000 from the Council of Scientific and Industrial Research. The Committee was also not in favour of giving any capital grant to the Textile Technology Department since the Department forms a part of the Government Textile Institute, but recommended that to enable the University to appoint professors and other necessary staff an annual recurring grant of Rs. 40,000 should be made to this Department.

XII. College of Engineering, Muslim University, Aligarh.

The Committee noted with regret that this Engineering College although forming a part of a Central University, was

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very poorly equipped in the matter of staff and equipment and desired that the Ministry of Education's attention should be drawn to the unfavourable comments made by the Visiting Committee. The Committee was definitely of the view that for the next four or five years or until the Institution has been properly developed, the admission to this College should be strictly limited to 90 students, 30 in Civil Engineering, 30 in Mechanical Engineering and 30 in Electrical Engineering. The University authorities must secure priviate benefactions to the extent of a third of the estimated capital and recurring cost as calculated before the Central Government makes any further grant to this institution.

XIII. Engineering College, Annamalai University:

Here again the Committee was definitely of the view that the annual admission to the institution should be strictly limited to 60 students, 30 in Civil Engineering, 15 in Mechanical Engg. and 15 in Electrical Engineering for the next five years and that the University must secure benefaction to the value of a third of the recurring and the capital cost involved to bring the Institution to a proper footing before the Central Government makes any grant to this College.

XIV. Dayalbagh Technical College, Agra:

The Committee agreed that the annual admission to the degree course should be limited to 60 students (30 Mechl. 30 Electrical Engineering). The authorities of this institution must secure private benefactions to the extent of a third of the estimated capital and recurring cost as calculated before the Central Government makes any grant to this institution.

10. A summary of the foregoing recommendations in respect of capital and recurring grants for each institution together with detailed calculations will be found in Annexure 'I'.

A statement of the total financial implications of the recommendations made by the Scrutinising Committee is given in Annexure 'II'.

Annexure II.

Summary of Recommendations.

Sl. No.	Institution.	Capital grant in lakhs of Rupees Building	Capital grant in lakhs of Rupees Equipment	Recurring grant in lakhs	Interest free loan for hostel
I	Engineering College Benares Hindu University.	3.12	16.87	5.12	3.96
II	Jadavpur Engineering College.	3.38	26.00	6.43	13.01
III	Victoria Jubilee Technical Institute, Bombay.	7.60	9.87	1.52	4.33
IV	College of Mining and Metallurgy, Benares Hindu University.	3.11	6.85	1.53	3.17
V	College of Technology Benares Hindu University.	1.30	4.20	2.08	3.08
VI	Dept- of Chemical Technology, Bombay University.	3.34	3.06	1.07	3.24
VII	Luxminarayan Technical Institute, Nagpur.	1.51	1.70	1.75	1.39
VIII	Dept. of Applied Chemistry, Calcutta University.	4.52	2.81	2.13	3.00
IX	Dept. of Applied Physics and Radio & Electronics, Calcutta University.	5.25	2.38	1.29	
X	Jaipur Vikram Deo College, Andhra University.	2.29	2.27	0.70	
XI	Alagappa Chettiar College, Madras.	2.50	2.50	0.60 0.40	
	Total for I to XI	37.92	78.51	24.62	35.78
XII	Engg. College Aligarh	2.14	12.15	2.13	3.96
XIII	Engg. College Annamalai	3.33	7.33	1.28	2.64
XIV	Dayalbagh Technical College	3.00	7.07	1.28	2.00
	Total for XII to XIV	8.47	26.55	4.69	8.60
	GRAND TOTAL	46.39	105.06	29.31	44.38

Annexure 4. Third Meeting.
Item No.4(a) of Agenda.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M E M O R A N D U M.

Establishment of Regional Committees of the All India Council for Technical Education.

At its second meeting held in Bangalore in May, 1947, the All India Council for Technical Education decided that the four regions into which it was proposed to divide India for the purpose of establishment of the Regional Committees of the Council should be re-demarcated in the light of geographic & economic conditions and the political changes which were then impending. It was further suggested that Labour should have two representatives on each Regional Committee and that all non-official members of the All India Council for Technical Education in their respective regions should be ex-officio members of the Regional Committees.

The views of the Council stated above were communicated to the Provincial & States Governments.

2. In a letter dated the 4th February 1948 (Annexure 5, item 4(b) of agenda) the Government of Bombay has suggested a somewhat different composition for the Regional Committees from that proposed by the Council. The two proposals are shown in the comparative statement below for the consideration of the Council.

COMPOSITION OF THE REGIONAL COMMITTEES.

1 As proposed by A.I.C.T.E.	2 As proposed by the Govt. of Bombay.
a) Chairman	a) } As in column 1.
b) One representative of the Ministry of Education of the Central Government.	b) }
c) Two representatives of each of the Provl. Govts. within the region, one of whom will be the representative of the Provl. Government on the A.I.C.T.E.	c) Three representatives of each Provl. Govt. within the region. In the event of integration of States within the region with the Provinces of that region, the States representatives may be suitably apportioned among the other Govts.

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d) Upto three representatives of the Indian States in the region. In the southern region the States representation will be limited to the three members of A.I.C.T.E. representing the States of Hyderabad (Deccan), Mysore & Travancore and in the Western region, the State of Baroda will have one representative & the other States not more than two.	d) As in column 1 but subject to the provision of (c) above.
e) Two representatives of Industry & Commerce.	e) As in column 1.
f) One representative each from the Universities within the region having technological faculties.	f)) As in column 1.
g) Two representatives of Labour	g))
h) Four members to represent the technical institutions within the region.	h) Three representatives of technical institutions. (All academic matters on All India basis will be considered by the Boards of Studies which will consist mainly of expert representatives and Committees to afford such representation).
i) Two representatives of the Institution of Engineers. j) One representative of the Indian Institute of Architects.	i) & j) No separate representation for the Institute of Engineers and the Institute of Architects. (Very probably the representatives from the Universities or the technical institutions will already contain members who may represent the interests referred to. Moreover, the Regional Committees are proposed to be authorised to co-opt specialists in particular cases).
k) All non-official members of the All India Council for Technical Education within the region..	k) Two members of A.I.C.T.E. to be nominated by the Chairman of the Co-ordinating Committee. (Many of the members in the earlier categories will also be members of A.I.C.T.E.).
l) If on any Regional Committee there be no specialists on any of the subjects for which the six Boards of Studies have been set up by the Council, then the Regional Committees will be authorised to co-opt such specialist or specialists.	l) As in column 1.

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3. The Government of United Provinces has suggested that there should be an Executive Committee of each Regional Committee to serve as an executive organ. This is also for consideration.

4. The Provincial and State Governments are generally agreeable to the performance of the following functions by the Regional Committees as resolved by the Council at its first meeting:-

i) To supervise the work of the technical institutions all running All-India Courses, and of Higher Technical Institutions which the Government of India may set up within the region.

ii) To appoint Boards of examiners, taking into consideration the recommendations of the Boards of Technical Studies concerned and to arrange for the proper conduct of examinations.

iii) To publish the results of the examinations.

iv) To send reports to the Co-ordinating Committee about the conduct of examinations periodically.

v) To make preliminary examination of any institution seeking recognition and to forward recommendations to the Co-ordinating Committee.

vi) To survey the facilities for Technical Education and to make recommendations thereon to the Co-ordinating Committee.

The Government of Orissa has suggested that the functions of the Regional Committees may also include the following:-

a) To make recommendations for co-ordinated improvement of higher technical education in the region.

b) To survey the needs of technologists and arrange for their training.

The Government of Bengal has suggested that the Regional Committees and the Provincial Technical Education Committees (if any) should cooperate in advising the Provincial Governments.

The Government of Banaras State has suggested that the Regional Committees should afford technical help and advice to Provinces and States desiring to set up technical institutions after such local survey as may be necessary.

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As the Regional Committees will perform in general the functions assigned to the All India Council for Technical Education, it is more or less implied that their duties include the additional functions suggested by the Governments of Orissa, Bengal and Banaras. It is however for consideration whether any or all of these be specifically included in the list of functions of the Regional Committees.

5. It has already been made clear to the Provincial and State Governments that the Council do not propose to entertain applications for running All India Courses from any institution, unless the request of such institutions has the support of the Provincial Government concerned and there is no intention whatsoever of encroaching on the rights and privileges of any statutory bodies who may be controlling the Provincial and non-University institutions.

6. As regards re-demarcation of the regions it is suggested that these may comprise the territories mentioned below:-

i) The Northern Region: Comprising East Punjab, Delhi, The United Provinces, Ajmer-Merwara, the Eastern Punjab and Rajputana States, and the States of Jammu and Kashmir when these have finally acceded to the Indian Union.

ii) The Southern Region: Comprising Madras and the States of Mysore, Travancore, Cochin and other Southern India States, and Hyderabad (Deccan) State if and when it accedes to the Indian Union.

iii) The Eastern Region: Comprising Assam, West Bengal, Bihar, Orissa, Tripura, Manipur, and other Eastern India States.

iv) The Western Region: Comprising Bombay, the Central Provinces and Berar, Baroda and Gwalior States and the other Western and Central India States.

7. The decision of the Council is sought on the above points namely (i) the composition of the Regional Committees, (ii) the function of the Committees, (iii) the demarcation of regions.

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Annexure 5. Third Meeting.
Item No.4(b) of Agenda.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M_E_M_O_R_A_N_D_U_M.

The Government of Bombay in their letter No.7764-K, dated the 4th February 1948, have made certain suggestions regarding the composition of the Co-ordinating Committee and the proposed Regional Committees of the Council. Those relating to the Regional Committees have been incorporated in the note on Item 4(a) of the agenda (Annexure 4.)

Relevant extracts from the Bombay Government's letter are reproduced below for consideration of the Council.

Extracts from a letter No.7764-K, dated the 4th February 1948, from the Joint Secretary to the Government of Bombay, Education and Industries Department, to the Secretary to the Government of India, Ministry of Education, New Delhi.

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3. It is desirable that in the Co-ordinating Committee which is the Executive Committee of the All India Council for Technical Education more adequate representation may be afforded to the Governments concerned, including the Government of India. It is considered suitable that the Governmental representatives may be one half of the total number, the remaining seats being distributed among other interests.

24. As regards also the composition of the Regional Committees it would be desirable to have these committees more compact. As the All India Council for Technical Education is a large and representative body and can deliberate on an All India basis on general questions, it would be desirable to modify the proposed tentative composition of the Regional Committees on the lines indicated below.

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5. The representatives of each Provincial Governments may be three in place of two; and in the event of integration of the States within the Region with the provinces of that Region, the State's representative may be suitably apportioned among the other Governments.

6. Representatives of Technical Institutions - Three representatives would appear adequate. All academic matters on All India basis will be considered by the Boards of Studies which will consist mainly of expert representatives, and it does not appear necessary to enlarge the Regional Committees to afford such representation.

7. Representatives of Institute of Engineers and the Indian Institute of Architects - It is very probable that the representatives from the Universities or the Technical Institutions will already contain members who may represent the interests referred to; moreover, the Regional Committees are proposed to be authorised to co-opt specialists in particular cases.

8. Representatives of the All India Council for Technical Education - Here again many of the members in the earlier categories will also be members of the All India Council for Technical Education. It would therefore be sufficient to provide for two additional members of the All India Council for Technical Education for nomination by the Chairman of the Co-ordinating Committee.

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ANNEXURE 6.
ITEM NO.5 OF AGENDA. THIRD MEETING.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

Action taken by the Government of India on the recommendations of the All India Council for Technical Education made at its second meeting.

1. Membership of the Council.

The Council had recommended that its membership should be enlarged so as to include one representative of the Indian Chemical Society, Calcutta.

The Government of India have accepted this recommendation and the Department of Education Resolution No.16-10/44-E.III(P), dated the 30th November, 1945 establishing the All India Council for Technical Education has been amended suitably by resolution No.F.1-2/46-E.III(P) dated the 24th July 1947, and a nominee of the above named organisation appointed as member of the Council.

As recommended by the Council, representation has also been granted to the Central Board of Irrigation and a nominee of the Board has been appointed to be a member of the Council.

The Ministry of Industry & Supply desired to have one more representative to enable them to nominate a technical officer on the Council. This request has been granted.

The recent constitutional changes necessitated certain amendments to the Government of India Department of Education Resolution No.F.16-10/44-E.III, dated the 30th November,1945 establishing the All India Council for Technical Education. These have been carried out and a copy of the above mentioned resolution incorporating all amendments upto 6.12.47 is submitted for the information of the Council (Appendix A)

The Constituent Assembly of India (Legislative) have elected five new representatives as members of the Council to replace the representatives of the old Central Legislature.

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II. Committees of the Council.

All India Board of Technical Studies.

The term of office of the All India Boards of Technical Studies expired on the 31st December, 1947 and the Boards were reconstituted, with effect from 1st January, 1948.

Regional Committees.

In consultation with the Provincial and State Governments it has been decided to set up four Regional Committees of the Council. A note setting out the action taken in this connection is submitted separately.

III. Co-ordination of Higher Technical Education.

It was suggested by the Council at its first meeting that there should be coordination of the activities of the different Central Government Departments in the field of technical education.

The Government of India have accepted the suggestion. A classified list of technical subjects indicating the Government Department(s) interested in each subject and the Ministry primarily responsible for education therein has been circulated to the Ministries concerned and it is hoped that the list end the arrangements for coordination will shortly be finalised and put into effect. It is proposed to set up inter-departmentall committees for the purpose of ensuring coordinated development of technical education on an all India basis.

With a view to securing uniform standards for higher technical education throughout India, a memorandum was sent to the Inter-University Board with the request that they may consider the desirability of appointing a Committee with which a small committee of the All India Council for Technical Education may co-operate, if necessary, in drawing up the general principles to be

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observed in regard to technical education for the degree courses of universities.

IV. Higher Technical Institutions.

Consequent on the decision of the Ministry of Railways not to locate their proposed locomotive workshop at Kanchrapara, it was considered necessary to explore alternative sites for the location of the Eastern Higher Technical Institution. The matter was considered by the Co-ordinating Committee at its fourth meeting held on the 15th November, 1947. The Committee agreed that it was not now desirable to locate the institution at Kanchrapara and suggested that the Government of India should request the Government of West Bengal to acquire a suitable piece land, measuring at least 600 acres, within a few miles from Calcutta. The Government ofWest Bengal were accordingly approached in the matter and they have suggested a few p possible sites for the Eastern Higher Technical Institution and have also expressed their willingness to offer a site free of cost, if necessary, for the institution. The Fijli Detention Camp site near Khargpur about 73 miles from Calcutta, is considered to be the most suitable site.

In consultation with the Government of Bombay, a number of sites for the location of th Western Higher Technical Institution were inspected and a site measuring approximately 1000 acres including the North Kurla Military Depot is considered to be most suitable from all points of view. Negotiations are going on with the Ministry of Defence, Government of India, for the release of temporary buildings occupied by the Army Camp for the use of the proposed Higher Technical Institution. On receipt of a favourable reply from the Ministry of Defence, the Government of Bombay will be requested to acquire the site in question.

Steps have been taken to advertise the posts of Director and eight Heads of Departments for the Eastern Higher Technical Institution simultaneously in India through the Federal Public Service Commission and in the U.K. and U.S.A. through the High Commissioner for India in London, and the Indian Embassy in Washington respectively.

The Provincial and State Governments in the Southern Region were requested to state the facilities they could offer in the matter of a suitable site, buildings water supply etc. for the proposed Southern Higher Technical Institution. Their replies will be considered by the sub-committee appointed by the Co-ordinating Committee to deal with the question in due course.

V. Strengthening of existing Institutions.

Three more visiting committees were constituted as shown below:-

1. For the Jaipur Bikramdev College of Science and Technology, Waltair, Andhra University and the Chemical Technology Department of the Madras University.

(i) Sir J.C. Ghosh

(ii) Dr. M.N. Saha

(iii) Dr. B.C. Guha.

2. For the Department of Applied Physics and Applied Chemistry of the University College of Science and Technology of the Calcutta University.

(i) Prof. M.S. Thacker

(ii) Dr. B.B. Dey.

3. For the Lakshminarayan Institute of Technology, Nagpur University.

(i) Rai Bahadur N.K. Mitra

(ii) Dr. B.C. Guha

(iii) Dr. S.R. Sen Gupta.

The reports of these visiting committees along with the reports of the five visiting committees appointed earlier

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were considered by the Scrutinising Committee appointed by the Co-ordinating Committee at its third meeting, and the recommendations of the Scrutinising Committee were placed before the Coordinating Committee at its fourth meeting held in New Delhi on the 15 November 1947. The Co-ordinating Committee recommended that grants from the Central Revenues to the extent of Rs. 1.5 crores on capital expenditure and Rs. 30 lakhs on recurring expenditure be made to fourteen institutions. The Committee further recommended that these grants should be spread over a period varying from 3 to 5 years beginning with the financial year 1947-48.

The Standing Finance Committee of the Legislature has approved in principle the scheme for strengthening and improvement of the existing technical institutions, and agreed

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that the institutions should receive such grants for the year 1947-48 as may be decided after necessary scrutiny by the Ministry of Finance.

V- Craftsman Training Scheme.

A note stating the action taken by the Ministry of Labour (Resettlement & Employment Directorate) in implementing the recommendations of the Advisory Committee on Technical Training concerning (i) the training and apprenticeship of craftsmen for industry and (ii) training of instructors, is submitted for the information of the Council (Appendix B).

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Appendix A to annexure 6.
Item No. 5 of Agenda.

Third Meeting

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All India Council for Technical Education.

MINISTRY OF EDUCATION

RESOLUTION

New Delhi, the 30th November, 1945.

(The resolution below incorporates all Amendments made from time to time upto 6-12-47)

ESTABLISHMENT OF AN ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION.

No. F. 16-10/44-E. III.—In their plan for Post-War Development in India the Central Advisory Board of Education have given reasons for their belief that technical education at the higher stages cannot in modern conditions be effectively organised on a provincial basis. They have emphasised the need for planning this particular branch of education on an All-India basis if there is to be substantial industrial development in the post-war period and have remarked that "to stimulate, co-ordinate and control the provision of the educational facilities, which such a development as well as existing industry will need, there must be an All-India body in supreme charge". They have accordingly recommended the establishment of a National Council for Technical Education which, they suggest, should control policy in technical education generally and deal with all technical institutions above the high school stage except the Technological Departments of Universities. It is obvious that this recommendation raises issues, agreement on which is likely to be reached only after considerable discussion with the various authorities concerned. At the same time the development of technical or practical instruction at all stages is important not only in view of the accepted need for making Indian education generally more realistic but also because it has an essential and urgent contribution to make towards other branches of post-war reconstruction which will demand a large increase in the available supply of Indian technologists and technicians. A necessary preliminary to any planned and balanced development of technical education is a survey by a single competent body of existing facilities, probable post-war requirements and present and prospective proposals for development in this important sphere of education. For the immediate task of survey and advice it is not necessary that an All-India Council for Technical Education should be endowed with executive, administrative or controlling powers of any kind or that its establishment should be delayed until all the issues raised by the Central Advisory Board's recommendations have been settled. It has accordingly been decided that the All-India Council for Technical Education should be set up immediately, composed in the way suggested by the Central Advisory Board, but entrusted in the first instance with advisory functions only. It will be understood that the decision to set up the Council immediately with advisory functions is without prejudice and at the same time without commitment to the full implementation at a later date of the proposals in this behalf of the Central Advisory Board.

2. *Functions.*—The immediate task of the Council for Technical Education will be to survey the needs of the country as a whole for higher technical education, with special reference to prospective post-war needs, and to advise in what areas technical institutions should be established, for what branches of technology each should provide and up to what standards they should operate. In particular it will be empowered:—

(a) to survey the whole field of technical education in consultation with Provincial Governments and such Acceding States as may be willing to co-operate with it;

(b) to consider such immediate projects as are already under consideration by various Ministries of the Government of India, *e.g.*, the provision of senior All-India Polytechnics on the lines of the Massachusetts Institute of Technology or the establishment of a Technical College for Electrical (Power) Engineering, and to assign to these their appropriate place in all All-India Scheme; and

(c) to conduct preliminary investigations with a view to ascertaining the conditions on which the authorities in control of existing technical institutes would be prepared to co-operate in an All-India Scheme.

3. *Constitution.*—The Central Advisory Board have envisaged the establishment of a Council representative of all the main interests concerned with technical education. Acceptance of this view precludes the setting up of a small and compact body. Technical Education has many facets, and the representation of the interests best qualified to assist the attainment of the objects in view can be achieved only at the expense of enlarging the size of the Council. It will be open to the Council to appoint such executive committees or other subordinate bodies as may be required to facilitate the discharge of its business. The Council will be composed as under:—

(i) *Members*—(a) Chairman, who will be an eminent person connected with Industry or Commerce, will be selected by the Government of India. On occasions when he is unable to preside over a meeting of the Council the Educational Adviser to the Government of India will deputise for him.

(b) Educational Adviser to the Government of India.

(c) Representatives of the Ministries of the Government of India.

(d) Five members of the Central Legislature elected by it.

(e) One representative of each Provincial Government.

(f) Five representatives of the Acceding States to be nominated by the Ministry of States.

(g) Fourteen representatives of Industry, Commerce and Labour to be nominated by the following institutions:—

Associated Chambers of Commerce;

All-India Organisation of Industrial Employers;

Federation of Indian Chambers of Commerce;

Indian National Trade Union Congress.

Employer's Federation of India;

All-India Trade Union Congress;

Indian Federation of Labour; and

All-India Railwaymen's Federation.

(h) Two members of the Central Advisory Board of Education in India.

(i) Two members of the Inter-University Board, India, to be nominated by the Inter-University Board of India.

(j) Two representatives of the Association of the Principals of Technical Institutions in India.

(k) Two representatives of the Institution of Engineers, India.

(l) Two nominees of the Government of India to represent any other interests which they may consider desirable.

(m) One representative of the Indian Institute of Architects, Bombay.

(n) Two representatives of the National Planning Committee.

(o) One representative of the Indian Chemical Society, Calcutta.

(ii) *Tenure of office*—The tenure of office of the non-official members including the Chairman will be three years; provided that a member elected or nominated under sub-clause (d), (h) or (i) above shall cease to be a member of the Council if he ceases to be a member of the Central Legislature, Central Advisory Board of Education or

Inter-University Board of India, as the case may be. The official members of the Council will continue until they are replaced by others. All casual vacancies among the members (other than *ex-officio* members) shall be filled by the authority or body who nominated or elected the member whose place becomes vacant, and the person appointed to a casual vacancy shall be a member of the Council for the residue of the term for which the person whose place he fills would have been a member.

4. The All-India Council for Technical Education will be attached to the Ministry of Education. A member of the staff of that Ministry will be the Secretary of the Council. It will be the function of the Educational Adviser to the Government of India assisted by the Secretary of the Council to prepare the agenda for its meetings and attend to all work relating to the Council.

5. The names of members of the Council under para. 3(i) above will be announced in due course.

ORDERED that a copy of this Resolution be communicated to all Provincial Governments and Minor Administrations and all Ministries of the Government of India.

2. ORDERED also that the Resolution be published in the Gazette of India for information.

D. M. SEN, Secy.

GIPD—L241MofE—20-1-48—1,000.

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APPENDIX B.

Report on progress made in implementing the recommendations of the Advisory Committee on Technical Training.

The Advisory Committee on Technical Training made certain recommendations in its Report (1944-45) concerning (i) the training and apprenticeship of craftsmen for Industry and (ii) training of Instructors. The following is the present position regarding implementation of the Committee's recommendations:-

(i) Training and apprenticeship of craftsmen for Industry:

The Provincial Governments were addressed by the Ministry of Labour in May, 1947, regarding the action proposed to be taken on the recommendations of the Advisory Committee. It was suggested to them that the Committee's recommendations could be implemented immediately by admitting a limited number of young boys to some selected Training Centres, which the Ministry of Labour has set up for the training of demobilised Services personnel, and giving them training as proposed by the Committee. As the requirements of ex-Servicemen became smaller, more vacancies could be provided for boys and ultimately the Centres would be engaged exclusively on their training. A long term plan of training, as recommended by the Committee, could thus be gradually built up. The Ministry of Labour undertook to provide the necessary machinery and equipment and to organise and supervise training through its directional and inspectional staff and arrange for trade testing on the completion of training. The Provincial Governments were required to bear only the recurring expenditure involved in the training of boys.

Replies have now been received from all the Provincial Governments. The Governments of Assam, West Bengal, Bihar, Orissa, Bombay and East Punjab have accepted the suggestion and agreed to participate in the Scheme of training

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recommended by the Advisory Committee. The Governments of Madras, U.P., C.P. and Berar have not agreed to join the Scheme as they have their own plans for providing facilities for craftsman training in their respective Provinces. The Government of C.P. & Berar, it is understood, are reconsidering their decision and will very likely participate in the scheme. No official communication, however, has so far been received from them.

The Advisory Committee has recommended that training of craftsmen should be planned and organised on a national basis and its aim should be to train boys for a National Certificate of Craftsmanship. This will ensure uniformity of standards throughout the country and facilitate mobility of labour. This object, however, cannot be achieved if all the Provincial Governments do not agree to join the Scheme. The question also arises what arrangements should be made for the administration of the Training Scheme for juveniles after the training of ex-Servicemen has come to an end and the Training Centres set up by by this Ministry for their training are closed.

The matter is being placed before the Conference of the Provincial Labour Ministers to be held in New Delhi in April, 1948 and it is hoped that the Conference will be able to give definite guidance regarding the action to be taken on the recommendations of the Advisory Committee on Technical Training.

(ii) Central Institute for the Training of Instructors:

A Scheme for the establishment of a Central Institute for the training of Instructors, as recommended by the Advisory Committee, was submitted to Government last year. The Provincial Governments were also consulted whether they would support such a Scheme by sending Instructors employed, or to be employed by them, for training at the Institute and share the recurring cost of training of their nominees on a proportionate basis. The Governments of Assam, Bihar, Orissa, U.P., C.P. and Berar and East Punjab have agreed to participate in the Scheme. The

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Governments of Madras and Bombay have not agreed to join the Scheme as they have their own plans for training instructors. A reply from the West Bengal Government is still awaited.

The Government of India has now sanctioned the scheme for a period of 3 years in the first instance. The Institute will be located at the Combined Technical and Vocational Training Centre, Koni Camp, Bilaspur, C.P. where sufficient accommodation is already available and where the Combined Training Centre will serve the purpose of a practising school for the Instructor trainees. The Institute will provide training to the Instructors employed at the Training Centre for ex-Servicemen with a view to improving their efficiency and teaching ability and will

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also train new Instructors to meet replacement needs and the requirements of the Provincial Governments and recognised private Institutions. It will have a capcity for training 200 Instructors at a time and courses will be provided in a number of trades. Arrangements will also be made to provide refresher courses with a view to ensuring that Instructors are always up to date and conversant with the latest methods of production and teaching work. Efforts are being made to start the Institute in April, 1948.

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Annexure 7
Item No.6(a) of Agenda

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

Third meeting

NOTE ON THE ACTIVITIES OF THE ALL INIDA BOARDS OF TECHNICAL STUDIES SINCE THE LAST REPORT TO THE ALL INDIA COUNCIL FOR TECHNICAL EDUCATION IN 1947.

MEETINGS:-

The following meetings were held during the period under report:-

i) All India Board of Technical Studies in Architecture and Regional Planning - 29th July, 1947 at New Delhi.

ii) All India Board of Technical Studies in Commerce and Business Administration - 31st July 1947 at New Delhi.

iii) All India Board of Technical Studies in Engineering and Metallurgy and its Syllabus Committee - 4th, 5th and 6th August 1947 at New Delhi.

iv) All India Board of Technical Studies in Textile Technology and its Specialists Committee - 11th, 12th and 13th August 1947 at Bombay.

v) All India Board of Technical Studies in Chemical Engineering and Chemical Technology - 23rd August 1947 at New Delhi.

/Art vi) All India Board of Technical Studies in Applied/and its Specialists committee - 17th and 18th November 1947 at New Delhi.

vii) Examination Committee of the Commerce Board - 5th February 1948 at New Delhi.

viii) Examination Committee of the Architecture Board - 6th February 1948 at New Delhi.

ix) Examination Committee of the Chemical Engineering Board - 13th February 1948 at Calcutta.

x) Examination Committee of the Chemical Engineering Board - 14th February, 1948, at Calcutta.

As desired by the Co-ordinating Committee it was originally arranged to hold the meetings of the All India Board of Technical Studies in Applied Art and of its Specialists Committee at Calcutta. But these meetings had to be postponed, twice, due to the unsettled conditions prevailing at that time in Calcutta. Ultimately it was decided by the Chairman of the Board to hold the meeting in New Delhi.

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2. COORDINATING COMMITTEE'S DIRECTIVES ON THE STANDARD OF ALL INDIA COURSES.

At their meetings held in July-November 1947 the All India Boards of Technical Studies considered the Co-ordinating Committee's directives in regard to the Standard of All India Courses as embodied in the memorandum on the subject (Appendix I). The Boards were in general agreement with the views expressed by the Co-ordinating Committee.

While agreeing with the Coordinating Committee that the Rules and Regulations for the Diploma examinations should be so framed that the holders of All India Certificates or equivalent qualifications engaged in full or part-time occupations in appropriate branches of Technology, are able to take the All India Diploma by taking the course on a part-time basis, some of the Boards were of the view that due to a number of practical difficulties it may not be possible to arrange for instructions in the entire Diploma course on a part-time basis. In the opinion of these Boards attendance on a full-time basis for a period of at least one year was essential after acquiring the All India Certificate to qualify for a Diploma. The Engineering and the Architecture Boards however recommended that facilities should be made available for going through the entire Diploma course on a part-time basis also. The Chemical Technology Board held the view that it was not possible to cover the course ofthe standard stipulated by the Co-ordinating Committee either wholly or in part in that manner. The detailed provisions made by the different Boards in their Regulations are being submitted later in the report together with the complete schemes for the All India Courses.

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The minimum academic qualification for admission to the All India Diploma courses has been fixed for the time being at Intermediate Science or Pre-Engineering examination except in the cases of Commerce Architecture and Applied Art where, Matriculation has been prescribed for the same. The raising of the admission qualification to Higher Secondary Certificate is now under consideration of the Commerce Board and it is possible that the other two boards may consider it desirable to do the same.

For persons who for some reason or the other have had to interrupt their studies and have thus been unable to acquire the minimum academic qualification an entrance examination of a standard equivalent to that of the minimum qualification has been prescribed for purposes of admission.

In regard to the Certificate courses the Boards agreed in toto with the recommendations made by the Coordinating Committee. Provision is being made in the schemes for enabling the All India Certificate holders to study further up to the Diploma standard in a subject or subjects in which they are interested.

3. CURRICULA AND SYLLABUSES FOR THE ALL INDIA COURSES.

Considerable progress has been made by the Boards in working out details of Curricula and syllabuses for the All India Courses. In the light of the directives given by the Coordinating Committee in regard to the standard of Diploma and Certificate courses the Boards reviewed the content of the courses that were either already in existance or were recently framed by their committees.

The Architecture and the Commerce Boards were of the opinion that the courses already framed by them were of the required standard and no change was therefore necessary.

The Engineering Board framed new sullabuses for the All India Diploma courses in Civil, Mechanical and in

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Electrical Engineering. The first year of the new course in Electrical Engineering has been introduced in the affiliated institutions. The Syllabus Committee of the Board is now engaged on the work connected with the framing of Certificate courses.

The Chemical Technology Board has decided on the total content for All India courses in Industrial Chemistry, Electro-Chemistry, Textile Chemistry and Fuel Technology. A small committee is now engaged in apportioning the total syllabus to the different sessions comprising the course.

The Textile Technology Board has settled the curriculum for the Diploma course in Cotton, Silk, and Woollen and Worsted Technology. The detailed syllabuses for the All India Diploma Courses in Rayon Technology and in Woollen and Worsted Technology have been completed by the Specialists concerned and will be considered by the Specialists Committee of the Board at its next meeting.

The Applied Art Board has accepted the recommendations of its Specialists Committee that there should be a general Art Course of three years' duration with Painting and Sculpture as the main subjects and that it should be followed by a two years course in specialised branches of Art Education. The Board has accepted a draft syllabus for the general Art Course prepared by one of its members subject to certain additions in respect of general subjects such as History of Art, Sociology and Business Methods, and Costing. A small Committee has been appointed for the purpose of carrying out the above modifications to the general course and for framing courses in Specialized subjects.

4. PRACTICAL TRAINING.

Practical training for one year forms an integral part of the All India Diploma Courses in Engineering, Chemical

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Technology and Commerce. The Engineering Board considered the question of provision of facilities for practical training to enable thestudents to acquire the Diploma and expressed the view that provision of such facilities should be the joint responsibility of the affiliated institutions and the Government of India.

5. RULES AND REGULATIONS FOR RECOGNITION OF INSTITUTIONS

Rules and Regulations governing recognition of institutions desirous of imparting instructions for the All India courses have been framed by the Commerce and the Architecture Boards. The other Boards are expected to take up the matter after they have completed framing of curricula, syllabuses etc.

With a view to ensuring expeditious disposal of applications for affiliation, it was proposed that each of the Boards might have a small "Affiliation Committee" which should consider all such applications duly endorsed by the Provincial or the State Governments concerned. The Affiliation Committees of the different Boards would frame supplementary rules in addition to the Rules and Regulations for Recognition of Institutions that may be laid down by the Council. These Committees shall either inspect the institutions or arrange for their inspection and make their recommendations to the Boards.

The Architecture and Commerce Boards have accepted the suggestion and have appointed Affiliation Committees. The Textile Board has formed a panel of names from which the Chairman is empowered to select the personnel for committees to deal with specific applications, and the Engineering Board has empowered the Chairman to appoint an appropriate committee for each application received by the Board.

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6. EXAMINATIONS.

The following examinations were conducted during the period under report:-

i) All India Intermediate Examination in Architecture.

ii) All India Diploma Examination in Electrical Engineering.

iii) All India Certificate Examination in Electrical Engineering.

iv) All India Diploma Examination in Commerce.

The All India Diploma Examination in Chemical Technology was scheduled to be held on the 23rd June 1947 but the students abstained from taking the examination.

With a view to ensuring smooth conduct of the examinations and also to maintaining the standards, Examination Committees have been appointed by the different Boards for holding the All India Examinations. The functions assigned to the Examination Committees are:-

a) to fix the dates and centres for the examinations,

b) to appoint examiners from amongst the panel formed by the Board,

c) to make arrangements for the conduct of examinations,

d) to arrange for the moderation of question papers,

e) to consider the results and to declare the same,

f) to report to the Board on the conduct of examinations.

Arrangements are being made to hold the following Examinations in May 1948:-

i) All India Diploma Examination in Electrical Engineering.

ii) All India Certificate Examination in Electrical Engineering.

iii) All India Diploma Examination in Chemical Technology.

iv) All India Diploma Examination in Commerce.

v) All India Certificate Examination in Commerce.

vi) All India Intermediate Examination in Architecture.

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7. DRAFT REGULATIONS FOR THE CONDUCT OF EXAMINATION.

The Coordinating Committee at their meeting held on the 5th February 1947 had directed that the draft regulations for the conduct of examinations placed before them, be considered by the Boards in the first instance, before they were finalized by the Committee. The Coordinating Committee had specifically raised certain issues arising out of the draft for the consideration of the Boards.

All the Boards have considered the draft regulations except the Applied Art Board which decided to defer the consideration of this matter to a later date. The Boards do not favour the holding of supplementary examinations in addition to the annual principal examination. The Chemical Technology Board, however, recommends that a special examination be arranged every year for the compartmental candidates.

The draft regulations for the conduct of examinations have been examined by the five Boards and certain modifications have suggested. Except in regard to certain minor regulations which may be different for different Boards, it is desirable that regulations should be uniform. The modifications to the general draft proposed by the different Boards are being placed before the Coordinating Committee for consideration at its next meeting.

8. ARCHITECTURE BOARD - PROPOSAL TO PERMIT PRIVATE STUDENTS TO APPEAR FOR THE ALL INDIA EXAMINATION.

At its meeting held on the 27th & 28th May 1947, at Bangalore the Coordinating Committee observed that attendance at part-time classes should be obligatory for all the candidates who might not be pursuing full-time instruction to enable themselves for taking the All India Examination in Architecture. The All India Board of Technical Studies in Architecture and Regional Planning considered the question at great length at their meeting

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on the 29th July 1947, and passed the following resolution unanimously for consideration of the Council:-

" In view of the fact that the Indian Institute of Architects does not conduct any professional examination and that there is a total dearth of Architectural Schools in the country, the system of permitting private candidates to appear for the All India examinations in Architecture may be continued as an interim measure and that in places where Architectural Schools are available, the candidates shall be required to attend at least part-time courses to be eligible for appearing at the All India examination. "

9. APPLIED ART BOARD - NEW SCHEMES.

A complete scheme for the establishment of a central school of printing was drawn up by Mr. H.K.Das, a member of the Specialists Committee of the Applied Art Board and was considered by the Committee at its meeting held on the 17th November 1947. The Committee commended this excellent scheme to the Printers of India and appealed to them to come out with at least a part of the Finances required for its implication.

The Board appreciated that one school of this type would not be sufficient for the whole of India. As desired by the Board copies of the scheme have been sent to the Provincial Governments with the request that they may consider the question of establishment of such schools within their jurisdiction. The Board has invited their comments on the scheme also. No reply has so far been received.

10. RECOGNITION - ALL INDIA DIPLOMA IN ENGINEERING.

The All India Diploma in Engineering has been recognised by the Institute of Engineers (India) as exempting from Parts 'A' & 'B' of their Associate Membership Examination.

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The Governments of Orissa and the Travancore State have recognised the All India Diploma as equivalent to a Degree for the purpose of employment under them.

11. RECONSTITUTION OF THE ALL INDIA BOARDS OF TECHNICAL STUDIES

The term of office of the previous All India Boards of Technical Studies expired on the 31st December 1947 and the Boards were to be reconstituted with effect from the 1st January 1948. Accordingly various bodies and organisations comprising the different constituencies were requested to send in their nominations for the membership of the reconstituted Boards.

The Co-ordinating Committee at its meeting held on the

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15th November 1947, while considering the question of reconstitution of the All India Boards of Technical Studies, authorised its Chairman to constitute the new Boards. Accordingly the panels of names formed as a result of the recommendations made by the different organisations, were forwarded to the Chairman for final selections. The approved personnel of the reconstituted Boards is given at Appendix 'A', to Annexure 7(a), item No.6(b) of Agenda.

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APPENDIX I. (235)

A note on the activities of the All India Boards of Technical Studies was considered by the Coordinating Committee of the All India Council for Technical Education at its meeting held at Bangalore on the 27th and 28th May'47. The Committee made the following recommendations which were later endorsed by the Council at their meeting held on the 29th and 30th May 1947:-

1) (a) The All India Diploma courses should be equivalent in standard to Degree courses in Universities but greater emphasis should be laid on the practical side.

(b) While it is intended that the Diploma course should be taken on a full-time basis, the rules and regulations for the Diploma Examinations should be so framed that the holders of All India Certificates or equivalent qualifications, engaged in full or part-time occupations in appropriate branches of Technology, may be able to take the All India Diploma by taking the whole or part of the course on a part-time basis, if they so desire.

(c) The minimum qualification for admission to the All India Diploma courses should therefore be fixed, keeping both the above considerations in view.

(ii)(a) The All India Certificate courses, which are intended to afford opportunities to persons engaged in appropriate full-time or part-time occupations to improve themselves, should be equivalent in standard to that of formanship courses.

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(b) The Certificate courses should therefore be so designed that these can be taken mainly on a part-time basis.

(c) The minimum qualification for admission to such courses need not, therefore, be fixed rigidly except that a candidate should be required to prove his ability to follow the courses of instruction.

(d) Provision should also be made for an All India Certificate holder to further specialize in his chosen subject or subjects with a view to obtaining a higher All India Certificate. The standard obtained should be equivalent to that prescribed for the subject or subjects which form a part of the All India Diploma course.

(iii) Minimum requirements in respect of staff, equipment and class rooms, laboratories and workshops etc., should be prescribed for the different courses in relation to the standard of education proposed by the Boards and only such institutions granted affiliation to the Council as are able to fulfil the conditions thus prescribed.

(iv) The Boards may consider the desirability of coopting outside experts as member if necessary for the purpose of drawing up detailed syllabuses in Humanities, such as Economics Sociology, etc.

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(v) The Boards should complete the preparation of the All India Schemes and submit the same to the Coordinating Committee before the end of the year.

2. It may be recalled in this connection that the following functions were assigned to the Boards by the All India Council for Technical Education at its first meeting held on the 30th April, 1st and 2nd May, 1946.

(1) To examine the existing regulations and syllabuses for certificates and diplomas in the different provinces and to frame definite regulations governing the grant of

a) All India Certificates.

b) All India Diplomas.

c) Higher Diploma of the Higher Technical institutions.

(2) To recommend what conditions should be prescribed for recognition of the different types of technical institutions taking into consideration -

a) qualification, nature and number of teaching staff required and conditions of service

b) accommodation needed for teaching purposes and for staff and students

c) the nature and extent of the equipment required,

d) facilities for practical, and

e) such other conditions as may be required for the recognition of the institutions.

(3) To recommend persons who should be appointed as inspectors and visitors to report on the conditions of the institutes with a view to the grant of initial recognition or continuation of recognition;

(4) To recommend persons who should be appointed as external examiners;

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(5) To suggest names of assessors who will visit the centre, report on the soundness and standard of examinations;

(6) To perform such other duties as may be necessary for the fulfilment of the above purpose or as may be prescribed by the Co-ordinating Committee.

3. It should also be mentioned that pending the formation of Regional Committees of the All India Council for Technical Education, the Boards have been assigend the following additional functions:-

i) To appoint Boards of Examiners and to arrange for proper conduct of Examinations.

ii) To publish the results of Examinations.

iii) To submit to the Coordinating Committee comprehensive reports on the Examinations if any conducted by them.

iv) To make preliminary examination of any institution seeking recognition and to make recommendations thereon to the Coordinating Committee.

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Annexure 2
Item No.3 of Agenda of the Fifth meeting of the Coordinating Committee.

Annexure 7(a)
Item 6(b) of the agenda of the 3rd meeting of the Council.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

M E M O R A N D U M

The term of office of the previous All India Boards of Technical Studies expired on the 31st December 1947, and the Boards were to be re-constituted with effect from the 1st January 1948.

2. The constitution of the Boards as laid down by the All India Council for Technical Education at its first meeting held in May, 1946, is as follows:-

Representative of the All India Council for Technical Education	1
Representative of the Associational of the Principals of Technical Institutions (India)	2
Representative of the Employees	1
Representative of the Employers	1
Representative of the Professional Bodies Concerned.	2
Representative of the Inter University Board of India	1

and 4 Specialists to be nominted by the Co-ordinating Committee. Each Board was authorised to co-opt not more than 3 members for any particular specialised branch of study.

3. The various bodies comprising the above constituencies were requested to send in their nominations for the membership of the Boards.

4. The Secretary, Association of Principals of Technical Institutions (India) has intimated that there would be no change in the representatives of the Association on the different All India Boards of Technical Studies except on the Commerce Board where Principal S.N.Agarwal, M.A., would replace Principal

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I.M.Kapoor of Hailey College of Commerce, Lahore.

5. For the 'Employees Constituency' the four bodies addressed were:-

i) Indian Federation of Labour ii) All India Trade Union Congress iii) Indian National Trade Union Congress iv) All India Railwaymens' Federation	)	For all the Boards.
v) Textile Labour Association	-	For Textile Technology Board only.

The All India Railwaymen's Federation stated that at present, they did not have adequately qualified persons to suggest for nomination on the All India Boards of Studies.

6. As regards the 'Employers Constituency' two major Employers Organisations viz. Employers Federation of India, Bombay, and All India Organisation of Industrial Employers, New Delhi, were invited to suggest their nominees on the various Boards.

The following additional organizations were also addressed to suggest their representatives on the Boards mentioned against each:-

Commerce Board	1. Federation of Indian Chambers of Commerce and Industry.
Textile Technology Board.	1. Bombay Millowners Associations 2. Ahmedabad Millowners Associations 3. Bengal Millowners Association 4. Silk & Art Mills Association, Bombay.
Applied Art Board	1. Bombay Presidency Printers and Lithographers Association. 2. Bengal Association of Master Printers and Allied Industries.

The Employers Federation of India, Bombay, the All India Organisation of Industrial Employers, Delhi, and the Federation of Indian Chambers of Commerce and Industry, New Delhi, expressed their inability to recommend names on account of the procedure that has been laid down by the All

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India Council for Technical Education for final selection. They were averse to their nominees being pitted against nominees of other organisations for the formation of a panel. Each of these bodies wanted to have a definite representation on the Boards, They were quite willing to accept representation on only some of the Boards. The position was, however, explained to them pointing out that the constitution of the Boards had been clearly laid down by the Council on which these bodies were duly represented and that they might kindly reconsider their decisions.

The Employers Federation of India subsequently nominated their representatives on the Engineering and Chemical Engineering Boards, whereas the remaining two bodies adhered to the previous stand taken by them.

7. For the constituency "Professional Bodies concerned" the bodies addressed are given below:-

Commerce Board.	1. Indian Institute of Bankers. 2. Cost and Works Accounts Institute, Calcutta. 3. Indian Merchants Chamber. 4. Indian Chambers of Commerce.
Architecture Board.	1. Indian Institute of Architects. 2. Institution of Engineers (India)
Engineering Board.	Institute of Engineers (India)
Applied Art Board.	1. All India Institute of Art in Industry, Calcutta. 2. All India Fine Arts & Crafts Society, New Delhi. 3. The Association of Advertising Agents in India.
Textile Technology Board.	Textile Association (India)
Chemical Engineering Board.	1. Indian Chemical Manufacturers Association. 2. Indian Chemical Society.

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Of the above named bodies the Association of Advertising Agents in India failed to send in their recommendations.

8. The Inter-University Board of India has sent the names of their representatives on the reconstituted Boards.

9. The question of the re-constitution of the All India Boards of Technical Studies on the expiry of their term of office on the 31st December 1947 was considered by the Co-ordinating Committee at its fourth meeting held on the 15th November 1947. The Committee authorised the Chairman to make the final selection and to nominate Specialists on behalf of the Coordinating Committee. The names approved by the Chairman are shown in the lists of the personnel for the re-constituted All India Boards of Technical Studies (Appendix 'A').

10. It will be observed from the lists that the seat allotted to the Employers Representative on each of the Boards has been left vacant. In view of the reasons explained in paragraph 6 above the Chairman of the Co-ordinating Committee desired that the matter be referred to the All India Council for Technical Education for the necessary directive.

11. Three members are to be coopted by each Board. The Coordinating Committee may like to recommend names for consideration of the Board of purposes of cooption.

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12. The All India Council for Technical Education at its meeting held in April-May 1946 elected the following members to represent the Council on the various Boards of Technical Studies:

i) Commerce and Business Administration ... Dr. A.Waheed

ii) Architecture and Regional Planning ... Mr. D.L.Mazumdar

iii) Engineering and Metallurgy ... Mr. G.V.Apte.

iv) Chemical Engineering and Chemical Technology .... Prof: J.N.Mukerjee.

v) Textile Technology ... ... Sir Fredrick Stones.

vi) Applied Art ... ... Miss Maniben Kara.

The Council may proceed to elect their representatives on the reconstituted Boards.

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APPENDIX 'A'

ALL INDIA BOARD OF TECHNICAL STUDIES IN COMMERCE AND BUSINESS ADMINISTRATION.

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1. All India Council for Technical Education.	
2&3. Association of Principals of Technical Institutions (India)	1. Mr. S.N.Agarwal, M.A., F.R.E.S. G.S. College of Commerce, Wardah. 2. Mr. M.J.Antia, M.A., LL.B., I.E.S.(Retd) 'Rupayatan', 60, Marine Drive, Bombay.
4. Employees.	Mr. Deben Sen, M.L.A. Secretary, Bengal Provincial Branch of Indian National Trade Union Congress, Calcutta.
5. Employers.	*
6&7. Professional Bodies Concerned.	1. Mr. M.L.Tannan, O.B.E., 'The Cliff' Carmecheal Road, Bombay. (Representing Indian Institute of Bankers, Bombay). 2. Mr. G.Basu, B.A. R.A., F.S.A.A., F.I.C.W.A., F.C.I.S. 6, Hastings Street, Calcutta (Representing Cost & Works Accounts Institute, Calcutta).
8. Inter University Board of India.	Prof. B.N.Das Gupta, Lucknow University, Lucknow.
9-12. Nominees of the Coordinating Committee.	1. Sir Batie Staig, G.S.I., I.C.S. Auditor General of India. 2.Mr. D.G.Mulherker, 28, Ferozeshah Road, New Delhi. 3.Mr. M.P.Gandhi, C/O M/S Gandhi & Co., Jain Mansion, Sir Phirozeshah Mehta Road, Fort, Bombay. 4.Mr. K.M.Naik, G.D.A., R.A.A., General Manager, Associated Industrial Development Co., Ltd., Stephen House, 4, Dalhousie Square, Calcutta.
13-16. Co-opted Members	To be Co-opted by the Board.

* The position has been explained in the covering note.

Bodies addressed:

1. All India Organisation of Industrial Employers.
2. Employers Federation of India.
3. Federation of Indian Chambers of Commerce and Industry, New Delhi.

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ALL INDIA BOARD OF TECHNICAL STUDIES IN
ARCHITECTURE AND REGIONAL PLANNING

.....

1. All India Council for Technical Education.	
2&3. Association of Principals of Technical Institutions (India)	1. Dr. K.C.Chakko, B.A., D.Sc., M.I.E., Principal, College of Engineering, Annamalai University, Annamalai Nagar. 2. Mr. B.D.Puri, Principal, Thomason College of Engineering, Roorkee.
4. Employees	Mr. T.R.Ganesan, B.E., C/O Binny's Beach Engineering Worker's Union, 166, Linghi Chetty Street, G.T.Madras. (Representing All India Trade Union Congress).
5. Employers.	*
6&7. Professional Bodies Concerned.	1. Mr. Walter George, F.R.I.B.A. A.R.C.A. 1, Scindia House, New Delhi. (Representing Indian Institute of Architects) 2. Mr. B.R.Kagal, M.I.E.(Ind) Chief Town Administrator, The Tata Iron & Steel Co., Ltd., Jamshedpur. (Representing Institution of Engineers (India))
8. Inter-University Board of India.	Mr. L.M.Chitale, Madras University, Madras.
9-12. Nominees of the Coordinating Committee.	1. Mr. Claude Batley, F.R.I.B.A., F.I.I.A. C/O M/S Gregson, Batley and King, Chartered Bank Building, Bombay. 2. Mr. G.B.Deolalikar, Chief Architect, C.P.W.D., New Delhi. 3. Mr. Srish Chander Chatterji, Architect, 49, Malanga Lane, Calcutta. 4. Prof. C.M.Master, M.A., F.R.I.B.A. Prof. of Architecture, Sir J.J.School of Art, Bombay.
13-15. Co-opted Members	To be co-opted by the Board.

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* The position has been explained in the covering note.

Organisations addressed:

i) All India Organization of Industrial Employers, and

ii) Employers Federation of India.

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ALL INDIA BOARD OF TECHNICAL STUDIES IN
CHEMICAL ENGINEERING AND CHEMICAL TECHNOLOGY

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1. All India Council for Technical Education.	
2&3. Association of Principals of Technical Institutions (India)	1. Mr. P.N.Joshi, M.Sc.(Tech) Principal, V.J.T.I. Matunga, Bombay. 2. Dr. K.Venkataraman, D.Sc., Head of the Department of Chemical Technology, Bombay University, Bombay.
4. Employees.	Mr. V.B.Marathi, B.Sc., C/O Maritime Union of India, National Insurance Building, Hornby Road, Fort, Bombay. (Representing Indian Federation of Labour)
5. Employers	*
6&7. Professional Bodies Concerned.	1. Dr. H.Nagaraja Rao, Eastern Chemical Company, Bombay. (Representing Indian Chemical Manufacturers Association). 2. Dr. S.Krishna, Biochemist, Forest Research Institute, Dehradun (Representing Indian Chemical Society).
8. Inter University Board of India.	Mr. S.Mohiyuddin M.A., LL.B., M.Ed., Vice-Chancellor, Mysore University, Mysore.
9-12. Nominees of the Co-ordinating Committee.	1. Mr. S.P.Sen, General Manager, Bengal Chemical & Pharmaceutical Works Ltd., Calcutta. 2. Dr. H.L.Roy, A.B.(Harvard)Dr.Ing. Professor-incharge of Chemical Engineering, College of Engineering and Technology (Bengal), Jadavpur, 24-Parganas. 3. Dr. B.C.Guha, D.Sc., Ph.D., F.N.I., Professor and Head of the Department of Applied Chemistry, University College of Science, 92, Upper Circular Road, Calcutta. 4. Dr. N.N.Godbole, Ph.D., Principal, College of Technology, Benares Hindu University, Benares.
13-15. Co-opted Members.	To be co-opted by the Board.

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* The position is explained in the covering note.

Bodies addressed:

i) All India Organisation of Industrial Employers, and
ii) Employers Federation of India.

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ALL INDIA BOARD OF TECHNICAL STUDIES
IN ENGINEERING AND METALLURGY.

1. All India Council for Technical Education.	
2&3. Association of Principals of Technical Institutions (India).	1. Mr. A.C.Saghal, B.A., B.Sc.(Mech), A.M.I.E. Principal, Kalabhavan Technical Institute, Baroda. 2. Mr. N.N.Sen, Principal, Bengal Engineering College. Shibpore, Howrah.
4. Employees.	Mr. Michal John, President, Tata Iron & Steel Worker's Organisation, Jamshedpur. (Representing Indian National Trade Union Congress).
5. Employers	*
6.&7. Professional Bodies Concerned. (Institution of Engineers India)	1. Rai Bahadur N.K.Mitra, O.B.E., M.I.E. 16, Hindustan Road, Rash Behary Avenue, Calcutta. 2. Mr. H.J.Mulleneux, M.I.E., A.M.I.E.E. A.I.R.E(U.S.A), A.I.L.E., O.B.E., 32, Pali Hill, Bandra, Bombay.
8. Inter-University Board of India.	Mr. M.Sen Gupta, B.Sc.(Cal), B.Sc.(Eng) Hons.Glas., M.I.E.E.(Lond), M.I.E(Ind) A.M.I.E.Mech.E(Lond), C.P.E.(Glas) F.I.P.S., Benares Hindu University, Banaras.
9-12. Nominees of the Coordinating Committee.	1. Mr. N.S.Gupchup, B.E.(Bombay) B.Sc.(Edin) A.M.I.E.(Ind) A.M.I.E(England) 2. Mr. J.A.Taraporewala, B.Sc.(Edn)M.I.E, Principal, Engineering College, Poona 3. Dr. J.J.Rudra, M.B.E., M.A., B.Sc., Ph.D., A.I.I.S.C., M.I.E.E., Mem. A.I.E.E., Principal, College of Engineering Saidapet, P.O., Madras. 4. Mr. E.K.Ramaswami, B.Sc.(London) A.C.C.I., M.I.Mech.E., M.A.S.M.E., M.I.E., Principal, Engineering College, Bangalore.
13-15. Co-opted Members	To be co-opted by the Board.

* Bodies addressed:
1) All India Organization of Industrial Employers – Refer paragraph 6 of covering note.
2) Employers Federation of India – Mr. G.V.Apte.

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ALL INDIA BOARD OF TECHNICAL
STUDIES IN TEXTILE TECHNOLOGY

1. All India, Council for Technical Education.	
2-3. Association of Principals of Technical Institutions (India)	1. Mr. P.N.Joshi, M.Sc.(Tech) Principal, V.J.T.I., Matunga, Bombay. 2. Mr. H.B.Shroff, Deputy Director of Industries (Education) Government of United Provinces, Kanpur.
4. Employees.	Mr. K.T.Pule, B.Sc., LL.B., C/O Girni Kamgar Union, Dalvi Building, Poibawadi, Parel, Bombay 12. (Representing All India Trade Union Congress).
5. Employers.	*
6&7. Professional Bodies Concerned (Textile Association India)	1. Mr. S.D.Oke, B.Sc.(Manchester) L.T.M.(Hons) Manager, The Jam Mills No.1., Lalbaug, Parel, Bombay. 2. Mr. V.R.Manohar, L.T.M. Cdg. & Spg. Master, Indian Manufacturing Co., Ltd., Jacob Circle, Bombay 11.
8. Inter-University Board of India.	Mr. H.C.Papworth, M.A., O.B.E., Pro-Vice-Chancellore, Travancore University, Trivandrum.

P.T.O.

* The position has been explained in the covering note.

Bodies addressed:

i)	All India Organization of Industrial Employers.	
ii)	Employers Federation of India.	
iii)	Bombay Millowners Association	Sir Vithal N.Chandavarkar, Bar-at-Law, C/O N.Sirur & Co., Ltd., Temple Bar Buildings, 70, Forbes Street, Fort, Bombay.
iv)	Ahmedabad Millowners Association.	Seth Amritlal Hargovindas. (Please see under nominees of the Coordinating Committee).
v)	Bengal Millowners Association.	Mr. M.L.Shah, Messrs Mohani Mills Ltd., No.2 22, Canning Street, Calcutta.
vi)	Silk & Art Mills Association Bombay.	Mr. Dhiraj Lal N.Shroff, 40, C, Ridge Road, Malabar Hill, Bombay.

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9-12 Nominees of the Co-ordinating Committee	1. Mr. J.O.Lal, c/o The Cawnpore Woollen Mills, Ltd., Kanpur.	
	2. Seth Amritlal Hargovindas, c/o The Ahmedabad Cotton Mfg. Co., Ltd., Railwarpura, Ahmedabad.	
	3. Dr. Lavji Thoria, Technical Adviser, The Travancore Rayons Ltd., Main Road, Trivandrum.	
	4. Mr. M.P.G. Nair, T.T.W.Fm. (Saxony) Spinn. Tech: (Bohemia) Principal, Institute of Textile Technology, University of Travancore, Trivandrum.	
13-15. Co-opted Members.	To be co-opted by the Board.	

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ALL INDIA BOARD OF TECHNICAL STUDIES
IN APPLIED ART

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1. All India Council for Technical Education.		
2& 3. Association of Principals of Technical Institutions (India)	1. Mr. Atul Bose, Principal, Government School of Arts, Calcutta.	
	2. Mr. D.P.Roy Chowdhury, M.B.E. Principal Government School of Arts & Crafts, Madras.	
4. Employees.	Mrs. Kalyani Karlekar, M.A., C/O Indian Federation of Labour, Albert Hall, 15, Paniki Chatterjee Street, Calcutta. (Representing the Indian Federation of Labour).	
5. Employers	*	
6&7. Professional Bodies Concerned.	1. General Secretary, Indian Institute of Art in Industry, 15, Park Street, 'Artistry House', Calcutta. (Representing the Indian Institute of Art in Industry).	
	2. Mr. Anil Roy Choudhury, Secretary, All India Fine Arts & Crafts Society, Parliament Street, New Delhi. (Representing the All India Fine Arts and Crafts Society).	
8. Inter-University Board of India.	Prof. N.K.Sidhanta, Lucknow University, Lucknow.	

P.T.O.

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* The position is explained in the covering note.

Bodies addressed:

i) All India Organization of Industrial Employers
ii) Employers Federation of India

iii) Bombay Presidency Printers & Lithographers Association	1. Mr. Hussaini A.Varawalla, Mg. Partner, Mohmdi Fine Art Litho Works, GunPowder Road, Mazagon, Bombay	
	2. Mr. Parmanand Sugnomal, Mg. Partner, The Bolton Fine Art Litho Works, Tardoo Road, Tardoo, Bombay 7.	
iv) Bengal Association of Master Printers & Allied Industries.	Mr. H.K.Das, Eagle Lithographic Co., Ltd., 26, Christopher Road, Entally, Calcutta.	

It is suggested that the recommendation in respect of Mr. H.K.Das may be accepted for this constituency.

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9-12. Nominees of the Coordinating Committee.	1. Mr. Ratan Batra, Ratan Batra Studio Ltd., Feroze Shah Mehta Road, Bombay. 2. Dr. Stella Kramerisch, Professor of Indian Art, Calcutta University, 4, Shambunath Pandit Street, Calcutta 20. 3. Sri Gautama Sarabhai 4. Mr. V.N.Adarkar, G.D.Art.(Ptg)F.R.S. F.C.I.A.D.(Honoris Causa)(Eng). Deputy Director, Sir J.J.School of Art, Bombay.
13-16. Co-opted Members	To be co-opted by the Board.

CHAIRMAN*

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Annexure 8
Item No.6(c) of Agenda

Third meeting

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

MEMORANDUM

The term of Office of the All India Boards of Technical Studies expired on the 31st December 1947, and the Boards were therefore to be reconstituted with effect from the 1st January 1948.

The various bodies and Organisations connected with the different constitutecies were requested to send in their nominations for membership of the Boards.

The All India Council for Technical Education at its first meeting held in 1946 laid down that in the case of Organisations of Employers and Employees where there was more than one organisation concerned, each such recognised organisation would be requested to forward a name and from the panel thus formed the final selection would be made by the Coordinating Committee.

For the Employers Constituency two major Employers Organisations Viz: Employers Federation of India, Bombay, and All India Organisation of Industrial Employers, New Delhi, were invited to suggest names for nomination on all the Boards. In addition to these bodies the Federation of Indian Chambers of Commerce and Industry, New Delhi, was asked to suggest a nominee for the All India Board of Technical Studies in Commerce and Business Administration only. The three Organisations named above expressed their inability to recommend names for reasons stated in their letters reproduced below.

As the question involved a change in the mode of constitution of the Boards as laid down by the Council, the Chairman of the Co-ordinating Committee who was authorised by the Committee at its meeting held on the 15th November 1947 to make final selections and to nominate specialists on behalf of the Co-ordinating Committee,

P.T.O.

desired that the matter be placed before the All India Council for Technical Education and their directive obtained in the matter.

1. Copy of a letter dated the 12th December 1947 from the Secretary, the Employers Federation of India, Bombay.

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Sub: ALL INDIA BOARDS OF TECHNICAL STUDIES - RECONSTITUTION.

I am directed to refer to your letter No.F.4-83/47-E.III(P) dated the 11th November wherein you have stated that it is proposed to reconstitute the six All-India Boards of Technical Studies with effect from 1st January 1948. I note that one seat has been allotted to the representative of Employers on each of the Boards, that several Employers' Organisations have been requested to submit names, and that, out of the panel of names thus received, the final selection of a representative would be made by the Coordinating Committee of the Council.

I understand that my Federation's nominees on the Council, viz., Mr. G.V.Apte and Dr. K.Venkataraman, are already members of the All-India Board of Technical Studies in Engineering & Metallurgy, and the All India Board of Technical Studies in Chemical Engineering & Chemical Technology respectively. My Federation presumes that they will continue to be members of the reconstituted Boards, and it is not, therefore, considered necessary to submit fresh nominations in connection with these Boards.

As regards the other Boards, my Federation does not wish to make any recommendations, having regard to the fact that, under the proposed procedure, there is no certainty of our nominations being accepted.

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2. Copy of letter No.I.E.919 dated the 16th December 1947 from the Secretary, All India Organization of Industrial Employers, New Delhi.

Sub: ALL INDIA BOARDS OF TEHCNICAL STUDIES - RECONSTITUTION.

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I am directed to acknowledge receipt of your letter No.F.4-83/47-E.III(P) dated the 11th November 1947, inviting the Organisation to recommend the names of persons for nomination on the six Boards of Technical Studies, and to thank you for the same. I understand from para 4 of your letter that other Employers' Organisations have also been addressed by you with a similar request, and out of the panel of names thus suggested by the various Employers' Organisations, the final selection will be made by the Co-ordinating Committee of the All-India Council for Technical Education. The Organisation, since its inception, has all along maintained that it is the most representative organisation of industrial national employers in India, and if Government are anxious to secure its association in the working of any of their plans in which industrial employers are interested, it should be given direct representation instead of inviting it to suggest certain names to be on the panel for selection by your Co-ordinating Committee. The Organisation, therefore, regrets its inability to accede to Government's request to suggest the names of any persons to constitute a panel for selection on any of the six Boards proposed to be constituted from 1st January 1948.

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3. Copy of letter No.F.2450/691 dated the 16th December, 1947, from the Secretary, Federation of Indian Chambers of Commerce and Industry, New Delhi.

Sub: ALL INDIA BOARDS OF TECHNICAL STUDIES - RECONSTITUTION

I am directed to acknowledge receipt of your letter No.F.86/47-E.III(P) dated the 13th November 1947, informing the

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Federation of the reconstitution of six All-India Boards of Technical Studies, and to thank you for the same. The Govern-ment have invited the Federation to recommend for nomination on the All-India Board of Technical Studies in Commerce and Business Administration names of persons who would form a panel along with recommendations from other organisation, and out of the panel thus formed the final selection will be made by the Co-ordinating Committee of the All-India Council for Technical Education. The Federation of Indian Chambers of Commerce and Industry is the central organisation to represent all Indian interests in trade, commerce and industry, and you will appreciate, if the Government want the Federation to be represented on any of the Boards, it should be given a definite representation and should not be asked to suggest names to form a panel.

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ANNEXURE 9
Item No. 7 of Agenda.

Third Meeting.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

MEMORANDUM.

The organisation of Technical Education.

The following suggestions have been received from the Government of West Bengal:-

"The technicians that will be required in each main employment may be divided into the following five categories:

1. Research workers including the Professors of Engineering Colleges.
2. Chief Executives consisting of fully qualified Engineers and Professional teachers of Engineering Institutions.
3. Minor Executives consisting of Foremen, Chargemen, Overseers and Demonstrators of the professional subjects in Engineering Colleges.
4. Skilled craftsmen.
5. Job workmen.

Therefore for the training of technicians of the above different categories it is obvious that we shall require the institutions of the following different types:-

(a) Research Institutions.
(b) Engineering Colleges.
(c) Engineering Schools.
(d) Junior Technical Schools.
(e) Trade Job Schools.

The Research Institutions should be started on an All India basis so as to avoid duplication and overlapping, facilities being provided to all the Provinces by fixing the quota of admission and all the Provinces being asked to contribute pro rata for the maintenance of these institutions, the initial expenditure being borne by the Central Government.

P.T.O.

As regards the institutions for the production of Engineers, every Province should have at least one such institution, its size depending on the industrial progress of the Province. These institutions instead of being of the Polytechnic type should be technological departments of Universities, i.e. Engineering Colleges. The impress of the University has a certain amount of dignifying aspect and adds lustre to the character of the individual which has a far greater sociological value than can be achieved by education in a Polytechnic. It is therefore desirable that these institutions for the training of qualified engineers should be Engineering Colleges under the Universities but adequate steps should be taken to remove the two important charges that are levelled against them, viz. their too academic character and absence of contact with men with whom the students will have eventually to deal after the completion of their degree course. I.Sc. should be the admission qualification for the Engineering College and the course should be regulated so as to be covered in four years under the "Sandwich" system in which the practical training in the factories should be of at least three months' total duration in a year. The bar which now exists for the admission of the alumni of the Engineering Schools should be removed and they should get one year's remission so that may be admitted to the B.E. Degree on completion of a three years' course. The background of engineering knowledge which these students have acquired in three years in an Engineering School should be regarded as sufficient to outweigh the objection about lack of possession of advanced scientific background which is acquired by a Matriculate in two years at the I.Sc. stage.

As regards the production of the personnel of the third category, viz., Foremen, Chargemen, Supervisors, etc., three years' training in an Engineering School after Matriculation should be sufficient, more stress being given

P.T.O.

to the practical side so as to enable the products to acquire that amount of skill which will earn for them the admiration of the workers whose charge they will assume. The admission qualification for this group will be as indicated above, Matriculation (general or technical), preference being given to the Matriculation students who have followed the technical course which should be an alternative branch of study for the Matriculation Examination. The course of instruction should follow programmes of cultural instructions, of art, technique and administration together with Engineering subjects and practice in laboratories and workshops.

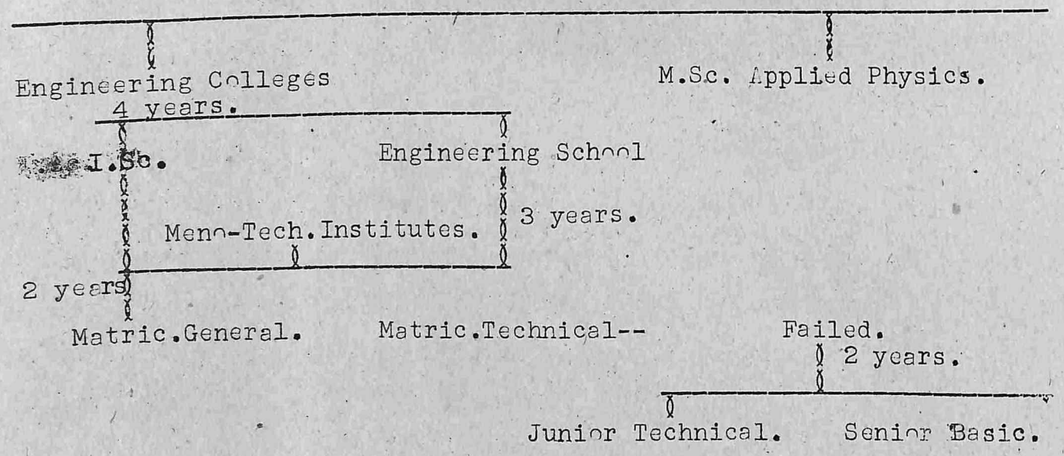
The fourth category will comprise the skilled craftsmen most of whom will not aspire to executive positions. These may be recruited from Technical High School pupils, passed or failed, or from the Senior Basic School pupils where they have mastered the rudiments of craftwork and put through a 2 years' course in Junior Technical Schools following a twofold programme of general knowledge and professional practice.

Below the four categories will come the great mass of semi-skilled and unskilled labour. No special academic training is required for them before entering employment apart from the knowledge of craft work they will have acquired in the schools. Factories employing large numbers of such semi-skilled workers are expected to run their own Trade Schools the establishment of which should not be the charge of Government.

The entire scheme of Technical Education as adumbrated above may be represented in the following genealogical form:-

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Technical Research Institutions.



In addition there is the necessity of various Meno-Technical Institutions, such as Textile Institute, Silk Institute, Art School, Tanning Institute, Ceramic Institute, Commercial Institute, etc. The admission to these will follow the Matriculation Examination.

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ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

MEMORANDUM

REPRESENTATION OF THE TECHNICAL EMPLOYEES ASSOCIATION, CENTRAL PUBLIC WORKS DEPARTMENT FOR GRANT OF PERMISSION TO DIPLOMA-HOLDERS IN SERVICE TO APPEAR FOR THE DEGREE EXAMINATION.

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A representation was received from the Technical Employees' Association of the Central Public Works Department, that Diploma-holders, who had put in some service under Government, should be allowed to sit for the degree examinations irrespective of age and without being required to undergo the prescribed courses of studies at any institution. Their request was confined to (i) Architectural and (ii) Engineering courses only.

The Chief Engineer, Central Public Works Department, had consulted the Indian Institute of Architects and the Institution of Engineers (India) on the above subject, but both of them had expressed their inability to do anything in the matter. The Association had, therefore, requested that the Central Government should set up an Examination Board and prescribe a syllabus so that all the Diploma-holders in service could appear direct at the examination.

2. As the term of office of the All India Boards of Technical Studies expired on the 31st December, 1947, and the Boards were still in the process of re-constitution, it was not possible to ascertain the views of the two Boards concerned viz. the All India Board of Technical Studies in (i) Architecture & Regional Planning and (ii) Engineering and Metallurgy. The views of some leading members of the previous Board and other experts were however obtained and are summarised below.

Architecture:

3. All the experts were unanimous in their opinion that facilities should be given to such candidates to appear for the All India Examinations in Architecture conducted by the All India Board of Technical Studies in Architecture & Regional Planning. There were only three architectural schools in India. One at Bombay which admitted 39 students a year, the second at Baroda (Kalabhavan Technical Institute) which had almost been closed down for want of staff, and the third one at the Delhi Polytechnic which was recently started. The above three institutions were deemed totally insufficient to cater for the needs of the country to produce qualified architects. The dearth of Architectural Schools precluded many an ambitious young man to get the benefit of proper education and training and left no option but to start work as a tracer and a junior Draughtsman somewhere in an Architect's office. If architectural schools could not be started for want of qualified staff, then the next best thing was to give an opportunity to the persons already working in this line for several years to pass the All-India Examinations in Architecture conducted by the Board as private students.

The All India Board of Technical Studies in Architecture & Regional Planning has already provided for the examination of private candidates. An extract from the proceedings of the second meeting of the Board held in July 1947 is given below:-

"As an interim measure private candidates from cities in which there is no architectural school shall be permitted to sit for the Intermediate Examination on production of proof of having worked for four years in an Architect's office approved by the Board and on production of testimonies. Such candidates will have passed the elementary and preliminary examinations of the course before offering themselves for the Intermediate Examination.

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To qualify for admission to the All India Diploma Examination in Architecture, candidates shall have to work for three years in an Architects office approved by the Board after passing the Intermediate Examination and on production of proof of having worked for that period and on production of testimonies.

Engineering.

4. The experts held very divergent views. One view was that private studies should be encouraged but before allowing such employees to take the final examination of the Board, their fitness for this stage should be tested either by means of some prescribed records of work and study and/or by their having passed graduated stages of examinations leading to the final stage.

There was a second school of thought who held the diametrically opposite view namely that admission qualifications and training of the two categories were entirely different and that all diploma holders inspite of their long service would not come up to the degree standard as they had been out of touch with the subjects required for the degree courses for a long time. It was suggested that diploma-holders should take one of the recognised examinations of City and Guilds of the Final Grade or the Associate Membership Examination of the Institution of Engineers (India). However, in the case of Institution of Engineers (India) the difficulty was that the person should be under 28 years) of age (there was a proposal to raise the age limit to 35 years). The All India Council for Technical Education should not become an examining body only since it was chiefly concerned with laying down a suitable standard of studies for engineering institutions.

Yet another view was that the most important points in connection with University degree or All India Diploma courses were systematic instruction and broad-based education and it would not be right to award degrees or All India Diplomas to those who did not satisfy these. Likewise Diploma-holders could not pass the practical examinations without attending an institution and it would not be right to award university degrees or All India Diplomas without these practical examinations. The request of the diploma-holders indirectly brought out a deficiency in this country which should be removed. There were several leading technical colleges in England that offered through evening classes, opportunities for education of the university standard to capable and ambitious youngmen who could not afford full time university education. The evening classes of technical institutions in England had supplied to that country a large number of technical personnel of grit and determination than the University Graduates, and England was the richer for it. India had neglected this source of supply of higher technical personnel. All technical colleges in India should therefore have evening classes for capable and ambitious youngmen, who owing to thie poverty could not afford a University Education. The Central Public Works Department should provide facilities to their employees to attend such classes.

Further the Provincial Governments should be advised to offer scholarships to a limited number of candidates who passed with distinction in the diploma examinations conducted by the respective provinces and make arrangements for their going through a full time course in the college under them.

PCS.
200 Copies. Dlh.

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Annexure 11 — Third Meeting.
Item 9 of Agenda.

All India Council for Technical Education

M E M O R A N D U M

Organisation of Apprenticeship Training - Training in Tele-Communications Engineering.

The Central Avisory Board of Education at its 14th meeting held in January 1948 decided to refer the question of Apprenticeship Training raised by the Madras Government to the All India Council for Technical Education in the first instance. The memorandum received from the Government of Madras on this subject is reproduced below.

Memorandum by the Government of Madras.

" In these days when there is a dearth of technical men and the Government of India have appointed a Scientific Man-power Committee to survey the whole position, it will not be necessary to stress the need for the practical training of technical men. Although there is a clear necessity for a close and continuous co-operation and contact between institutions of technical trainong on the one hand and industry and trade on the other, yet past experience has proved again and again that except for a few enlightened managements, the majority of industrial and commercial firms are unwilling to take apprentices for training or promise but limited support to such a proposal. This is the considered opinion of the Technical and Industrial Education Committee appointed by the Government of Bengal who reported in 1945 that from the replies received to the

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questionnaires they sent it appeared that conditions had not changed much till then. Conditions may no doubt be expected to be different with the coming into existence of a Free India, but it is doubtful whether there has been a real change of heart in the matter from the point of view of commercial firms.

2. In this connection it should however be noted that even in England about 40 years ago industrial concers were unwilling to take apprentices and charged heavy premia for taking them. But later on the value of apprenticeship as an asset to the country has come home to them and nowadays industrial concerns regularly take apprentices and pay them as much as 50 sh. per week for the work that the apprentices do when put in responsible charge.

3. Even in advanced America though in its own plants, such as Navy yards, arsenals and engraving establishments the Federal Government had been training apprentices for many years, it was only in 1937 that Congress decided by legislation that the training of all-round skilled workers is a matter of concern to all the people. Now the Apprentice Training Service of the Department of Labour arranges with the various commercial firms the training of apprentices for periods of a minimum of 4,000 hours (corresponding to 2 years) to a maximum of 8,000 hours (or 4 years) and the firms co-operate whole heartedly in this work. The apprentices trained in any particular firm are free to get employed in any other firm after the training though in most cases they get absorbed in the firm where they had the training.

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4. The most remarkable fact that we have to face is that in India although Government departments, railway workshops and other public utilities, do take a limited number of apprentices, these apprentices have again and again complained that they are not put in responsible charge of the machinery. It is probable that the Officers directly in charge of such machinery are reluctant to put apprentices in sole charge of such especially when they feel that such apprentices, not being paid any stipend even, may not feel the responsibility which they themselves have got to face if anything goes wrong. Secondly, most of the commercial firms in India are very small in comparison with the firms in the West and they cannot afford to waste the productive time of the small number of their machines on students who, they believe, have to be taught from the very beginning the need for minimising wastage of materials and the time of production and also for giving quality to the article produced by working to precision limits. That is why they consider in the words of the Bengal Report that "the sandwich system of training in which a batch of students are pushed in and taken out of factories from time to time for the purpose of giving practical training has a great dislocating effect" on their production. If, however, students have already been trained in educational institutions in methods of commercial production, the training given in firms is continuous and each of the trainees work in the factory for a sufficiently long time, the managements of such firms can put in such trainees for the work of the leave reserve men whom they would other wise have to engage.

5. In order that co-operation between business firms and educational institutions may be made greater, the Bengal Report has made annumber of suggestions all of which will have to be put into practice.

6. The most important means of bringing about this desirable end is by legislation which is being increasingly taken up by the less advanced countries. One of the most important features of the legislation is the raising of a special tax in order to promote vocational education. In some of the countries this is what is being done. A tax of 1 per cent is levied on wages and salaries paid in all industrial establishments which employ more than 5 wage-earning employees exclusive of the members of the family of the employer; this tax together with other sums set aside annually for this purpose in the National Budget together with donations and requests from private individuals or private firms etc. and the proceeds of all fines imposed are all collected quarterly and put into an Apprentice Training Fund. The apprenticeship tax is payable likewise by Government workshops and factories and by workshops and factories belonging to autonomous institutions or under the jurisdiction of a local board or municipality. Rules are set forth in the legislation that if proper arrangements are made by a firm for maintaining apprentice training courses, a certain portion of the tax levied is remitted.

7. A special executive body looks after the administration of the apprentice courses to meet the needs for the various trades and drawn by special committees under the approval of the Ministry of Education. It arranges also for the grant of stipends to the trainees and bonuses and subsidies towards the

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maintenance of apprenticeship courses organised by industrial institutions. It also looks after general welfare of all the apprentices by having under it an employment Bureau and inspectorate which have definite powers under the legislation for doing all that is necessary to see that the apprentices are trained properly and their social welfare is looked after.

8. From the above it will be seen that it is necessary for Government Departments both Provincial and Central, first to set an example by giving stipends to every apprentice trained in their own workshops or factories or similar places. It is regrettable to find that even after August the 15th, the Government of India regretted their inability to accept the proposal of the Provincial Government to give practical training facilities for the Electrical Communication Engineering students

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in the All India Radio - (vide; letter from the Government of India.)

9. Secondly, if early industrialisation of the country is to become an accomplished fact, it would appear that the best way would be for the Government of India to deal with the question of Legislation expeditiously. However, it may also be considered whether the Provinces also should not be given discretion to pass legislation so far as their sphere is concerned."

PCS/C.200
N.Delhi, 10/3/48.

Annexure 14.
Item 12 of Agenda.

Third meeting.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

M E M O R A N D U M.

At its first meeting held in April/May, 1946 the All India Council for Technical Education was unable to accede to the request for representation of the All India Manufacturers' Organisation, Bombay, as it was felt that the Council was already of a large size and that almost all members of the Organisation were also members of the different employers' Organisations which were already represented on the Council. The All India Manufacturers Organisation has asked for reconsideration of their request vide extract from their letter dated the 7th January 1948, reproduced below.

Extract from a letter No.79, dated the 7th January 1948, from the Secretary, All India Manufacturers Organisation, Bombay, to the Secretary Ministry of Education, Government of India, New Delhi.

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Further I am directed by my Working Committee to communicate to you that they note with deep regret that the Organization has not been given a representation on the Council in spite of our requests.

You are aware, Sir, that the All India Manufacturers' Organization, since its inception, is carrying on side by side with their propaganda for industrialization of the country, the need for technical and scientific education of our people. My Committee also met a couple of years ago the Chairman, Hon'ble Mr. R.K. Shanmukham Chetty, and members of the All India Industrial and Scientific Research Committee in Bombay and discussed with them our views on the subject of research and education. I may bring to your notice that we have got a separate Sub-Committee appointed for Scientific and Technical Research and Education. We have considered research schemes

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from individual industries as well as from technical committees of some of the Provincial Governments. Also we have prepared a scheme for the establishment of an Industrial Research Corporation. Our Committees consist apart from manufacturers also of technical men of repute who are today holding high places in some of the well-known heavy and key industries of the country. Recently our Delegation which visited foreign countries in 1946-47 have also studied the subject of Technical Education and have impressed on the necessity for Technical Education.

My working committee, therefore, request you to kindly reconsider your decision and co-opt a representative of our Organization to the said council.

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*SOOD 200CPS 25/2/48 DHT.

FACILITIES FOR TECHNICAL EDUCATION IN INDIA

Preliminary report on the survey of Technical Institutions in India conducted by the All India Council for Technical Education

PRINTED IN INDIA BY THE MANAGER
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PREFACE

The All-India Council for Technical Education, which has been set up to advise the Government of India on all matters concerning higher technical education, decided, at its first meeting held in May 1946, to carry out a comprehensive survey of the existing facilities and future requirements of the country in the field of technical education. This survey will be conducted, in due course, by the Regional Committees of the Council when set up and will provide the latest information concerning technical education in all its aspects.

2. The present report on the facilities for technical education available in India is the result of a limited survey undertaken by the Co-ordinating Committee of the All-India Council for Technical Education with a view to strengthening some of the existing institutions as a preliminary measure to meet the pressing demand for technical personnel. The information contained herein is mainly derived from the replies to a questionnaire which was issued in September 1946 to all technical institutions except those concerned with the training of artizans only. Some of the more important institutions were subsequently visited by Committees appointed by the All-India Council for Technical Education to obtain first hand infnrmation in regard to the scope and standard of instruction, the teaching staff, equipment, accommodation, etc.

3. Replies to the questionnaire, a copy of which appears in Appendix A, have been received from a majority of the institutions invited to provide data. This report covers ninety-five institutions offering various courses in Technology, Engineering, Art, Architecture and Commerce, and although by no means exhaustive or complete, attempts to present a fairly comprehensive picture of the existing facilities and should prove useful to educational officers and others interested in technical education.

4. Part I of the report deals with the grouping of the institutions by zones and their subdivision by type under each zone, the salient features of the survey, and broad outlines of the facilities for technical education now available in India.

Part II is devoted to individual institutions.

Part III contains comparative statements showing existing physical facilities, relative cost of education, working hours per session, etc., etc.

Appendix A reproduces the questionnaire referred to in the foregoing paragraphs.

5. The Council is deeply indebted to the various institutions and universities who have co-operated in supplying information and to the staff of the Ministry of Education, Government of India, for compiling and arranging the materials furnished.

S. R. SEN GUPTA,
Secretary,
All-India Council for Technical Education.

PART I

In India, facilities for technical education are privided in universities and a number of senior and junior technical, art, commercial and vocational institutions. It is the purpose of this report to provide, in a convenient form, particulars of the more important institutions providing courses in (i) Engineering and technological subjects, (ii) Art, (iii) Architecture and (iv) Commerce and to present a co-ordinated picture of the present-day facilities for training in each of these subjects.

India has, for the purpose of this report, been divided into four regions, *viz.*, the Northern, the Southern, the Eastern and the Western regions—the demarcation of the regions being as follows :—

(i) *The Northern Region*—comprising the East Punjab, Delhi, the United Provinces, Ajmer-Merwara, the Kashmir and Jammu States and the States of East Punjab and Rajputana.

(ii) *The Southern Region*—comprising Madras and the States of Mysore, Travancore, Cochin, Hyderabad (Deccan) and other Southern India States.

(iii) *The Eastern Region*—comprising West Bengal, Assam, Bihar, Orissa and the Eastern States,.

(iv) *The Western Region*—comprising Bombay, the Central Provinces and Berar and the Western India and Central India States.

A list of the ninety-five institutions in the above regions which have supplied the requisite information in reply to a questionnaire (Appendix A), issued in September 1946, is given at the end of this chapter. The institutions have been classified as follows :—

(ii) Engineering and Technological Institutions.

(iii) Art and Architecture Institutions.

(iii) Commercial Institutions.

The Institutions falling in each of the above classes have been further categorised into the following four groups according to the type of facilities primarily offered by them:—

(i) *Group 'A'*—

The institutions falling in this group provide facilities mainly for post-graduate and research work in addition to any other facilities that may be available.

(ii) *Group 'B'*—

The institutions in this group offer primarily degree or equivalent courses. General admission qualification is Intermediate with science, or its equivalent, *e.g.*, Pre-Engineering ; and the duration of courses ranges from three to four years.

(iii) *Group 'C'*—

The institutions in this group offer primarily diploma or equivalent courses with Matriculation as the admission qualification.

(iv) *Group 'D'*—

The institutions provide certificate or equivalent courses and the minimum admission qualification is the 7th standard of a High School.

The regional distribution of each class and group of institutions is shown in the following tables.

It will be observed from the foregoing tables that Engineering and Technological Institutions are mostly concentrated in the Southern region; Art and Architecture institutions in the Western and the Southern Regions, and Commercial institutions in the Western Region.

The ninety-five institutions covered by this report provide facilities for training in twenty-six branches of Engineering and Technology, Art, Architecture and Commerce, as shown in the following table which also gives the regional distribution of institutions by subjects.

TABLE IV

Serial No.	Subject	Number of institutions in				Total
		Northern Region	Southern Region	Eastern Region	Western Region	
1	Aeronautical Engineering	..	2	..	..	2
2	Automobile Engineering	2	3	..	2	7
3	Chemical Engineering	..	5	1	2	8
4	Civil Engineering	4	15	6	4	29
5	Electrical Engineering	3	14	4	6	27
6	Electrical and Mechanical Engineering (Combined)	6	..	2	1	9
7	Highway Engineering	..	3	..	..	3
8	Internal Combustion Engineering	..	1	..	..	1
9	Mechanical Engineering	5	15	3	10	33
10	Naval Architecture	..	1	..	..	1
11	Radio Engineering	1	1	..	..	2
12	Tele-communication	..	1	..	..	1
13	Mining	1	1	1	..	3
14	Metallurgy	1	1	1	..	3
15	Geology	1	1	1	..	3
16	Applied Physics	..	1	1	..	2
17	Chemical Technology	4	4	1	4	13

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Serial No.	Subject	Number of institutions in				Total
		Northern Region	Southern Region	Eastern Region	Western Region	
18	Cinematography and Sound Technology	..	2	..	..	2
19	Fisheries Technology and Navigation	..	3	..	..	3
20	Leather Technology	1	2	..	2	5
21	Printing Technology	..	3	..	..	3
22	Sugar Technology	1	..	..	..	1
23	Textile Technology	4	5	2	3	14
24	Art	3	3	1	2	9
25	Architecture	1	..	..	2	3
26	Commerce	5	3	4	6	18

SPECIAL FEATURES OF THE SOUTHERN REGION

It will be seen that the Southern Region has more technical institutions than any other region, and facilities for training in the following subjects are at present available in that region only :—

1. Aeronautical Engineering
2. Highway Engineering
3. Naval Architecture
4. Internal Combustion Engineering
5. Tele-communications
6. Cinematography and Sound Technology
7. Fisheries Technology and Navigation
8. Printing Technology

EDUCATIONAL INSTITUTIONS

Brief particulars of the institutions which offer courses in the above-mentioned subjects as well as others listed in table IV are given below :—

AERONAUTICAL ENGINEERING

Training facilities are available in :—

(i) THE INDIAN INSTITUTE OF SCIENCE, BANGALORE

and

(ii) THE COLLEGE OF ENGINEERING (VIZAGAPATAM), COCONADA.

The Indian Institute of Science offers—

(a) An Associateship Course (A.I.I.Sc.) of $2\frac{1}{2}$ years' duration. Admission qualification—B.Sc. (Hons.) with Physics or D.I.I.Sc. Number of admissions—three students each year.

(b) A diploma course (D.I.I.Sc.) of 2 years' duration. Admission qualifications—Bachelor of Engineering degree. Number of admissions—ten students each year.

The College of Engineering (Vizagapatam), Coconada is a newly started college under the Madras Government and is affiliated to the Andhra University. This institution offers a degree course of 4 years' duration. Admission qualification—Intermediate in Science. Number of admissions—105 students are admitted each year to all engineering courses including Aeronautical Engineering. The course is still in the formative stage.

HIGHWAY ENGINEERING

Training facilities are available in :—

(i) THE COLLEGE OF ENGINEERING (VIZAGAPATAM), COCONADA.
(ii) THE COLLEGE OF ENGINEERING, GUINDY, MADRAS.
(iii) THE ENGINEERING COLLEGE, ANANTPUR, MADRAS,

All these institutions offer degree courses of 4 years' duration. Admission qualification—Intermediate in Science. Annual intake of the institutions for all engineering subjects is 105, 124 and 50 respectively.

NAVAL ARCHITECTURE

Training facilities are available in THE COLLEGE OF ENGINEERING (VIZAGAPATAM), COCONADA. The institution offers a four years' degree course. Admission qualification—Intermediate in Science. The course is still in the formative stage.

INTERNAL COMBUSTION ENGINEERING

Training facilities are available in THE INDIAN INSTITUTE OF SCIENCE, BANGALORE. The institution offers a diploma course of two years' duration. Admission qualification—graduate in Mechanical Engineering. The course is still in the formative stage, and the annual intake is not known.

TELE-COMMUNICATION ENGINEERING

Training facilities in this subject are available only in THE COLLEGE OF ENGINEERING, GUINDY, MADRAS, which offers a degree course of four years' duration. Admission qualification—Intermediate in Science. About twenty students are taken every year.

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CINEMATOGRAPHY AND SOUND TECHNOLOGY

Training facilities are available in:

(*i*) SRI JAYACHAMARAJENDRA OCCUPATIONAL INSTITUTE, BANGALORE

and

(*ii*) THE GOVERNMENT SCHOOL OF TECHNOLOGY, BROADWAY, MADRAS

The first named institution offers (*a*) a diploma course of 3 years' duration and (*b*) a certificate course of 2 years' duration. The admission qualification for both the courses is S.S.L.C. and the annual intake is fifteen students for each course.

The Government School of Technology, Madras, offers a diploma course of four years' duration. Admission qualification—I.Sc. or I.A. (with Science). Number of admissions—thirteen students each year.

FISHERIES TECHNOLOGY AND NAVIGATION

Training facilities are available in :—

(*i*) THE GOVERNMENT SCHOOL OF TECHNOLOGY, MADRAS,
(*ii*) THE ANDHRA POLYTECHNIC, COCONADA, and
(*iii*) THE CENTRAL POLYTECHNIC, MADRAS.

The Government School of Technology, Madras offers a diploma course of four years' duration. Admission qualification—S.S.L.C. The number of annual admissions to this course is not known separately, but the total intake of the school, for all the engineering and technological courses offered is 103.

The Andhra Polytechnic and the Central Polytechnic, Madras, both offer a diploma course of 3 years' duration. Admission qualification—S.S.L.C. The total intake of these Polytechnics, and 4 others recently started by the Government of Madras, is 460 students per year for all subjects taught.

PRINTING TECHNOLOGY

Training facilities are available in :—

(*i*) THE GOVERNMENT SCHOOL OF TECHNOLOGY, MADRAS,
(*ii*) SRI JAYACHAMARAJENDRA OCCUPATIONAL INSTITUTE, BANGALORE and
(*iii*) THE CENTRAL POLYTECHNIC, MADRAS.

The Government School of Technology, Madras, offers diploma courses of four and five years' duration ; the five years' course being a part-time course. Admission qualification—S.S.L.C.

Sri Jayachamarajendra Institute offers a diploma course of 3 years' duration and a certificate course of 2 years' duration. The admission qualification is S.S.L.C. for both the courses. Number of admissions—ten students per year for each course.

The Central Polytechnic which is one of the six Polytechnics recently started by the Government of Madras offers a diploma course of 3 years' duration. Admission qualification—S.S.L.C.

SUGAR TECHNOLOGY

Training facilities in Sugar Technology, including Sugar Engineering, are available in one institution only, *viz.*, THE INDIAN INSTITUTION OF SUGAR TECHNOLOGY, KANPUR, which is located in the Northern Region.

The following courses are offered by this institution :—

(*a*) One year's Fellowship course in Sugar Technology (F.I.I.S.T.)

(*b*) One year's Fellowship course in Sugar Engineering (F.I.I.S.E.)

(*c*) An Associateship course of 3 years' duration in Sugar Technology (A.I.I.S.T.)

(*d*) An Associateship course of $2\frac{1}{2}$ years' duration in Sugar Engineering (A.I.I.S.E.)

(*e*) A Certificate course of one year's duration in Sugar Engineering.

(*f*) A Certificate course of one year's duration in Sugar Boiling.

(*g*) Short Certificate courses of four to eight months' duration in Sugar Chemistry, Pan-boiling and Statistics, etc.

The admission qualifications for the above courses are :—

A.I.I.S.T.—for (*a*)

A.I.I.S.E.—for (*b*)

B.Sc.—for (*c*)

B.E.—for (*d*)

Diploma in Engineering—for (*e*)

I.Sc.—for (*f*)

The admission qualification for (*g*) varies from Matric to M.Sc. according to the course and the total intake is about 50 students per year.

The annual intake for the other courses is 4 for (*a*) ; 3 for (*b*) and 12 each for (*c*) to (*f*).

TRAININIG FACILITIES IN THE FOLLOWING SEVENTEEN SUBJECTS ARE AVAILABLE IN MORE THAN ONE REGION (*cf.* Table IV) AND ARE OUTLINED BELOW:—

AUTOMOBILE ENGINEERING

Training facilities are available in the following institutions:

Northern Region.—(i) THE GOVERNMENT METAL WORKS INSTITUTE, AMBALA CITY. This institute offers a diploma course of four years' duration. The admission qualification is Matriculation. The number of annual admissions to this course is not known separately but the total intake in respect of all the subjects taught at the institute is 25.

(ii) TECHNICAL COLLEGE, DAYALBAGH, AGRA. This institute offers a certificate course of 2 years' duration. The admission qualification is Matriculation and the annual intake 25.

Southern Region.—(i) THE ARTHUR HOPE COLLEGE OF TECHNOLOGY, COIMBATORE. This institute offers a degree course of four years' duration in Automobile Engineering. The admission qualification is I.A. with Science. The number of annual admissions to the course is not known separately but the total intake of the college for all the Engineering and Technological subjects offered is 96.

(ii) THE DRAVIDA POLYTECHNIC, MADURA.

(iii) THE KARNATAKA POLYTECHNIC, MANGALORE.

These Polytechnics and four others which have been recently started by the Government of Madras offer a 3 years' diploma course in Automobile Engineering. Admission qualification—S.S.L.C. The annual intake by subjects is not known ; about 460 students in all are admitted to the various courses of studies offered by the six Polytechnics referred to above.

Western Region.—(i) THE GOVERNMENT ENGINEERING SCHOOL, NAGPUR. This institution offers a diploma course of 3 years' duration. The minimum qualification for admission is H.S.L.C. Number of admissions—10 students per year.

(ii) THE F. S. PAREKH TECHNICAL INSTITUTE, SURAT. This institute offers a certificate course in Automobile Engineering of 3 years' duration. The annual intake is 15 and the admission qualification is Vth standard of a High School.

CHEMICAL ENGINEERING

Training facilities in this subject are available in the Southern, the Eastern and the Western regions.

Southern Region.—(i) THE ALAGAPPA CHETTIAR COLLEGE OF TECHNOLOGY, MADRAS UNIVERSITY, offers a degree course in Chemical Engineering of $2\frac{1}{4}$ years' duration. The admission qualification is B.Sc. and the annual intake is 19.

(ii) THE DEPARTMENT OF ENGINEERING AND TECHNOLOGY, ANNAMALAI UNIVERSITY, ANNAMALAINAGAR, offers a four years' degree course in Chemical Engineering. The minimum admission qualification is I.Sc. and the annual intake is 28.

(iii) THE COLLEGE OF ENGINEERING, BANGALORE, offers a degree course of $4\frac{1}{4}$ years' duration. The admission qualification is I. Sc. and the total annual intake for all the courses of studies offered by the College is 170.

(iv) THE INDIAN INSTITUTE OF SCIENCE, BANGALORE, offers a diploma course of 3 years' duration. The admission qualification is B.Sc. (Hons.) and the annual intake is about 10.

(v) THE KERALA POLYTECHNIC, CALICUT, offers a diploma course of 3 years' duration. The admission qualification is S.S.L.C.

Eastern Region.—COLLEGE OF ENGINEERING AND TECHNOLOGY, JADAVPUR WEST BENGAL. This institution offers a degree course in Chemical Engineering of four years' duration. The admission qualification is I.Sc. Number of admissions—70 students per year.

Western Region.—(i) THE DEPARTMENT OF CHEMICAL TECHNOLOGY, BOMBAY UNIVERSITY, offers a degree course in Chemical Engineering of 2 years' duration. The admission qualification is B.Sc. Number of admissions—16 students per year.

This institution also offers a post-graduate course of one year's duration in Chemical Engineering. The admission qualification is B.Sc. (Tech.)

(ii) THE LUXMINARAYAN INSTITUTE OF TECHNOLOGY, NAGPUR, offers a degree course of two years' duration. The admission qualification is B.Sc. Number of admissions about 10 students per year.

The institute also offers a post-graduate course for which the admission qualification is B.Sc. (Tech.).

CIVIL ENGINEERING

Training facilities in this subject are available in all the regions and are as follows :—

Northern Region.—(i) COLLEGE OF ENGINEERING AND TECHNOLOGY MUSLIM UNIVERSITY, ALIGARH. This institution offers (*a*) a degree course in Civil Engineering of four years' duration and (*b*) a diploma course of the same duration. The minimum qualification for admission I.Sc. for (*a*) and Matriculation for (*b*). The annual intake is 96 and 54 respectively.

(ii) THOMASON COLLEGE OF ENGINEERING, ROORKEE, offers (*a*) a senior diploma course of three years' duration and (*b*) a junior diploma (overseer) course of two years' duration. The admission qualifications are I.Sc. or Pre-Engineering for (*a*) and H.S.L.C. for (*b*). The annual intake is 30 and 4 students respectively.

(iii) THE CIVIL ENGINEERING SCHOOL, LUCKNOW, offers a diploma course in Civil Engineering of two years' duration. The admission qualification is H.S.L.C. Number of admissions—90 students per year.

ff(iv) THE ENGINEERING COLLEGE, LUDHIANA (EAST PUNJAB) o ers a certificate course of three years' duration. The admission qualification isM.S.L.C.

Southern Region.—Five out of the fifteen institutions in this region which offer courses in Civil Engineering (*cf.* Table IV) are newly started Madras Government Polytechnics. These are :—

(i) THE A. G. POLYTECHNIC, VUYYUR.

(ii) THE ANDHRA POLYTECHNIC, COCONADA.

(iii) THE CENTRAL POLYTECHNIC, MADRAS.

(iv) THE DRAVIDA POLYTECHNIC, MADURA.

(v) THE KARNATAKA POLYTECHNIC, MANGALORE.

The above-mentioned Polytechnics offer a diploma course of 3 years' duration, for which the admission qualification is S.S.L.C.

(vi) THE DEPARTMENT OF ENGINEERING AND TECHNOLOGY, ANNAMALAI UNIVERSITY, offers a degree course of four years' duration Admission qualification—I.Sc. Number of admissions—50 students per year This institution also offers a diploma course in Civil Engineering of 2 years' duration. The admission qualification for this course is S.S.L.C. and the annual intake is 79.

(vii) THE ARTHUR HOPE COLLEGE OF TECHNOLOGY, COIMBATORE.

(viii) THE COLLEGE OF ENGINEERING, GUINDY, MADRAS.

(ix) THE COLLEGE OF ENGINEERING (VIZAGAPATAM), COCONADA.

(x) THE ENGINEERING COLLEGE, ANANTPUR.

The four institutions mentioned above offer degree courses of four years' duration. The admission qualification is I. A. with Science in each case. The total annual intake of the institutions for degree courses in all engineering subjects is 96, 124, 105 and 50 respectively.

The College of Engineering, Guindy, also offers a diploma course in Civil Engineering of 4 years' duration. The admission qualification is S.S.L.C. and the annual intake is 90.

(xi) THE COLLEGE OF ENGINEERING, BANGALORE. This institution offers a degree course of $4\frac{1}{2}$ years' duration. The admission qualification is I.Sc. and the total annual intake, for all the courses of studies offered by the College, is 170.

(xii) THE COLLEGE OF ENGINEERING, TRAVANCORE, offers a degree course in Civil Engineering of 5 years' duration. The admission qualification is I. Sc. and the annual intake is 34. The college also offers a diploma course of 3 years' duration. The admission qualification for this course is E. S. L. C. and the annual intake is 34.

(xiii) OSMANIA ENGINEERING COLLEGE, HYDERABAD (DECCAN), offers a degree course of $3\frac{1}{2}$ years' duration. The admission qualification is I.Sc.

(xiv) SRI JAYACHAMRAJENDRA OCCUPATIONAL INSTITUTE, BANGALORE. This institute offers (a) a diploma course of 3 years' duration and (b) a certificate course of 2 years' duration. The admission qualification is S. S. L.C. and the annual intake is 30 for each course.

(xv) THE GOVERNMENT SCHOOL OF TECHNOLOGY, MADRAS, offers a diploma course of 4 years duration. The minimum admission qulification is S. S. L. C. The total annual intake for all the courses of studies offered by the institution is 103.

Eastern Region.—The following six institutions in this region offer various courses in Civil Engineering :

(i) THE BENGAL ENGINEERING COLLEGE, SIBPORE, HOWRAH (WEST BENGAL), offers a degree course in Civil Engineering of 4 years' duration. The admission qualification is I.Sc. and the annual intake is 72.

(ii) THE BIHAR COLLEGE OF ENGINEERING, PATNA, offers (a) a degree caurse of 5 years' duration and (b) a 4 year diploma course. The admission qualifications for these courses are I.Sc. and Matriculation respectively. The total annual intake is 71 for the Civil Engineering and the Electrical Engineering degree courses, and 122 for the diploma course in Civil Engineering.

(iii) THE COLLEGE OF ENGINEERING AND TECHNOLOGY, JADAVPUR (WEST BENGAL), offers a diploma course of 3 years' duration. The admission qualification is Matriculation and the annual intake is 40.

(iv) THE CALCUTTA TECHNICAL SCHOOL, CALCUTTA, mainly caters for apprentices of certain factories and workshop in and around Calcutta. The school offers a diplomacourse in Plumbing and Sanitary Engineering of 4 years' duration. The minimum admission qualification is Matriculation or Junior Cambridge Certificate. Number of admissions—4 students per year.

(v) THE CALCUTTA ENGINEERING COLLEGE, BALLYGUNGE, offers (a) a degree course in Civil Engineering of 3 years' duration, (b) a diploma course of 3 years' duration and (c) a certificate course of 3 years' duration. The minimum admission qualification is I.S. for (a), Matriculation for (b), and Xth standard of High School for (c) and the annual intake is 10, 40 and 12 respectively.

(vi) ORISSA SCHOOL OF ENGINEERING, CUTTACK, offers a iploma course of four years' duration the Matriculation as the admission qualification. Number of admissions—40 students per year.

Western Region.—The following four institutions in this region provide facilities for training in Civil Engineering :—

(i) THE COLLEGE OF ENGINEERING, POONA, offers (a) a degree course of $3\frac{1}{2}$ years' duration and (b) a diploma course of 3 years' duration. The

admission qualifications are I. Sc. and Matriculation respectively. The annual intake is 105 for the degree course and 100 for the diploma course.

(ii) THE VICTORIA JUBILEE TECHNICAL INSTITUTE, BOMBAY offers a diploma course in Civil and Sanitary Engineering of four years' duration. Admission qualification—I.Sc. Number of admissions—10 students per year.

(iii) THE GOVERNMENT ENGINEERING SCHOOL, NAGPUR, offers a diploma course of 3 years' duration with H. S. L. C. as the admission qualification. Number of admissions—30 students per year.

(iv) KALABHAVAN TECHNICAL INSTITUTE, BARODA, offers 3 years' diploma course in Civil Engineering. The admission qualification is Matriculation and the annual intake is 25.

ELECTRICAL ENGINEERING

Facilities for training in this subject are available in all the regions as per details given below:—

Northern Region.—(i) THE COLLEGE OF ENGINEERING AND TECHNOLOGY, MUSLIM UNIVERSITY, ALIGARH, offers (a) a degree course in Electrical Engineering of 4 years' duration and (b) a diploma course of the same duration. The minimum admission qualifications are I. Sc. for (a) and Matriculation for (b) and the annual intake is 50 and 13 respectively.

(ii) THOMASON COLLEGE OF ENGINEERING, ROORKEE, offers a diploma course in Electrical Engineering of 3 years' duration. The minimum admission qualification is I.Sc. or Pre-Engineering. The total annual intake for the Electrical Engineering and the Mechanical Engineering courses is 32.

(iii) THE DELHI POLYTECHNIC, DELHI. This institution offers (a) an All-India Diploma course of 4 years' duration and (b) an All-India Certificate Course of 3 years' duration. The admission qualifications are I.Sc., or Pre-Engineering for (a) and Matriculation for (b). The annual intake is 51 and 33 respectively.

Southern Region.—Four out of the fourteen institutions in this region which offer courses in Electrical Engineering are newly started Madras Government Polytechnics. These are:—

(i) THE ANDHRA POLYTECHNIC, COCONADA.

(ii) THE CENTRAL POLYTECHNIC, MADRAS.

(iii) THE DRAVIDA POLYTECHNIC, MADURA.

(iv) THE KERALA POLYTECHNIC, CALICUT.

The above-mentioned polytechnics offer a diploma course of 3 years' duration for which the admission qualification is S. S. L. C.

(v) THE DEPARTMENT OF ENGINEERING AND TECHNOLOGY, ANNAMALAI UNIVERSITY, offers a degree course in Electrical Engineering of four years' duration. The admission qualification for this course is I. Sc., and the annual intake is 30.

(vi) THE COLLEGE OF ENGINEERING, GUINDY, MADRAS.

(vii) THE COLLEGE OF ENGINEERING (VIZAGAPATAM), COCONADA.

(viii) THE ENGINEERING COLLEGE, ANANTPUR, MADRAS.

(ix) THE ARTHUR HOPE COLLEGE OF TECHNOLOGY, COIMBATORE.

The four institutions mentioned above offer degree courses in Electrical Engineering of four years' duration. The admission qualification is I. A. with science in each case. The total annual intake of the institutions for degree courses in all Engineering subjects is 124, 105, 50 and 96 respectively.

(x) COLLEGE OF ENGINEERING, BANGALORE. This institution offers a degree course in Electrical Engineering of 4½ years, duration. The admission qualification is I. Sc. and the total annual intake for all the courses of studies offered by the college, is 170.

(xi) THE COLLEGE OF ENGINEERING, TRAVANCORE, offers (a) a degree course of 5 years' duration and (b) a diploma course of 3 years' duration. The admission qualification is I. Sc. for (a) and E. S. L. C. for (b). The annual intake is about 8 students for each course.

(xii) THE INDIAN INSTITUTE OF SCIENCE, BANGALORE. The institute offers an advanced diploma course in Electrical Technology of 3 years' duration. The admission qualification is B.Sc. (Hons. I) or B. E. and the annual intake is 30.

(xiii) SRI JAYACHAMARAJENDRA OCCUPATIONAL INSTITUTE, BANGALORE, offers (a) a diploma course of 3 years' duration and (b) a certificate course of two years' duration. The admission qualification in each case is S. S. L. C. and the annual intake is 20 students for each course.

(xiv) THE GOVERNMENT SCHOOL OF TECHNOLOGY, MADRAS offers a diploma course in Electrical Engineering of four years' duration. The admission qualification is S. S. L. C., and the annual intake is 79.

Eastern Region.—The following three institutions in this region offer various courses in Electrical Engineering :—

(i) THE BENGAL ENGINEERING COLLEGE, SIBPURE, HOWRAH, offers a degree course in Electrical Engineering of 4 years' duration. The admission qualification is I.Sc., and the annual intake is 26.

(ii) THE COLLEGE OF ENGINEERING AND TECHNOLOGY, JADAVPUR, CALCUTTA, offers a degree course in Electrical Engineering of 4 years' duration. The admission qualification is I.Sc., and the annual intake is about 60.

(iii) THE BIHAR COLLEGE OF ENGINEERING, PATNA, offers a 4 years' degree course. The admission qualification is I.Sc. and the annual intake for both the Civil and the Electrical Engineering degree courses is 71.

(iv) THE CALCUTTA TECHNICAL SCHOOL, CALCUTTA, offers a diploma course of 5 years' duration. The minimum educational qualification for admission is Matriculation or Junior Cambridge Certificate. This institution mainly caters for apprentices of certain workshops and factories in and around Calcutta.

Western Region.—The following six institutions in this region provide facilities for training in Electrical Engineering :—

(i) COLLEGE OF ENGINEERING, POONA. The college offers a degree course of 3½ years' duration. The admission qualification is I.Sc. and the annual intake is 28.

(ii) THE VICTORIA JUBILEE TECHNICAL INSTITUTE, BOMBAY. The institute offers a 4 year diploma course. The admission qualification is I.Sc., and the annual intake is 60.

(iii) KALABHAVAN TECHNICAL INSTITUTE, BARODA. The institute offers a diploma course of four years' duration. The admission qualification is Matriculation and the annual intake is 25.

(iv) SIR CURSROW WADIA INSTITUTE OF ELECTRICAL TECHNOLOGY, POONA. The institute offers a diploma course in Electrical Technology of 3 years' duration. The minimum educational qualification for admission is Matriculation and the annual intake is 40.

(v) MORVI TECHNICAL INSTITUTE, MORVI, KATHIAWAR. The institute offers a diploma course in Electrical Engineering of 3 years' duration. The admission qualification is VIIth standard of High School and the total annual intake for the Electrical and the Mechanical Engineering courses offered by the institute is 20.

(vi) THE R. C. TECHNICAL INSTITUTE, AHMEDABAD. The institute offers a diploma course in Electrical Engineering. The duration of the course is 3 years for full time students, and 4 years for part-time students. The annual intake is 10 and 20 respectively. Non-Matrics are admitted to the course.

ELECTRICAL AND MECHANICAL ENGINEERING (COMBINED COURSES)

Facilities for taking a combined course in Electrical and Mechanical Engineering are available in the Northern, the Eastern and the Western regions.

Northern Region.—The following six institutions in this region provide facilities for training in the above subject :—

(i) THE ENGINEERING COLLEGE, BANARAS HINDU UNIVERSITY, BANARAS. The college offers a degree course of 4 years' duration. The admission qualification is I.Sc., and the annual intake is 146.

(ii) TECHNICAL COLLEGE, DAYALBAGH, AGRA. The college offers a diploma course of 4 years' duration. The admission qualification is Matriculation with science and the annual intake is 25.

(iii) THE GOVERNMRNT TECHNICAL INSTITUTE, GORAKHPUR. The institute offers a diploma course of 3 years' duration. The admission qualification is H. S. L. C., and the annual intake is 30.

(iv) THE GOVERNMENT TECHNICAL INSTITUTE, JHANSI. The institute offers a diploma course of 5 years' duration. The course is run on 'Sandwich' system and is speciall meant for G. I. P. Rly. apprentices. The admission qualification is Matriculation and the annual intake ranges from 20 to 28.

(v) THE GOVERNMENT TECHNICAL INSTITUTE, LUCKNOW. The institute, offers a diploma course of 5 years' duration—almost half of this time is spent in practical training. The admission qualification is Matriculation and the annual intake is 34.

(vi) THE TECHNICAL COLLEGE, JODHPUR. The college offers a certificate course in Electrical and Mechanical Engineering (combined) of 5 years' duration. The admission qualification is Matricaulation.

Eastern Region.—(i) KANCHRAPARA TECHNICAL SCHOOL, KANCHRAPARA WEST BENGAL. This school caters mainly for apprentices of the B. & A. Rly., (now part of E. I. Ry.), and offers a certificate course of 5 years' duration. The admission qualification is Matriculation and the annual intake about 16.

(ii) THE CALCUTTA ENGINEERING COLLEGE, BALLYGANGE, CALCUTTA. The college offers (a) a diploma course of 3 years' duration and (b) a certificate course of 2 years' duration. The admission qualifications are, Matriculation for (a) and Xth standard of High School for (b) and the approximate annual intake is 90 and 38 respectively.

Western Region : In this region only one institution, namely THE COLLEGE OF ENGINEERING, POONA, has got facilities for training students in the combined Electrical and Mechanical Engineering course. The college offers a diploma course of 4 years duration. The admission qualification is Matriculation and the annual intake is about 76.

MECHANICAL ENGINEERING

Facilities for training in this subject are available in all the four regions.

Northern Region.—The following five institutions in this region provide facilities for training in Mechanical Engineering :—

(i) THE COLLEGE OF ENGINEERING AND TECHNOLOGY, MUSLIM UNIVERSITY, ALIGARH, offers (a) a degree course of 4 years' duration and (b) a diploma course of the same duration. The admission qualification is I. Sc. for (a) and Matriculation for (b) and the annual intake is 22 and 12 respectively.

(ii) THOMASON ENGINEERING COLLEGE, ROORKEE, offers a diploma course of 4 years' duration. The admission qualification is I.Sc or Pre-Engineering. The total annual intake for the Mechanical and the Electrical Engineering Courses is 32.

(iii) THE GOVERNMENT METAL WORKS INSTITUTE, AMBALA CITY (EAST PUNJAB). The institute offers a diploma course of 4 years' duration. The admission qualification is Matriculation and the annual intake is 25.

(iv) THE GOVERNMENT TECHNICAL INSTITUTE, LUCKNOW. The institute offers a certificate course of 3 years' duration in light Machine Engineering. The admission qualification is VIIIth standard of High School and the annual intake is 9.

(v) THE RAMPUR GOVERNMENT POLYTECHNIC RAMPUR, UNITED PROVINCES. This institution offers a certificate course in Mechanical Engineering of 3 years' duration. The admission qualification is VIIIth standard of High School and the annual intake is 21.

Southern Region. Six out of the fifteen institutions in this region offering facilities for training in Mechanical Engineering are newly started Madras Goverentment Polytechnics. These are :—

(i) THE A. G. POLYTECHNIC, VUYYUR.

(ii) THE ANDHRA POLYTECHNIC, COCONADA.

(iii) THE CENTRAL POLYTECHNIC, MADRAS.

(iv) THE DRAVIDA POLYTECHNIC, MADURA.

(v) THE KERALA POLYTECHNIC, CALICUT.

(vi) THE KARNATAKA POLYTECHNIC, MANGALORE.

The above-mentioned Polytechnics offer a diploma course of 3 years' duration for which the admission qualification is S.S.L.C. The annual intake by subjects is not known ; about 460 students in all are admitted to the various courses of studies offered by the six Polytechnics named above.

(vii) Sri Jayachamarajendra Occupational Institute, Bangalore. The institute offers (*a*) a diploma course of 3 years' duration, and (*b*) a certificate course of 2 years' duration. The admission qualification is S.S.L.C., and the annual intake is 20 for each course.

(viii) The Government School of Technology, Broadway, Madras. The school offers a diploma course of 4 years' duration. The admission qualification is S.S.L.C., and the annual intake is 62.

(ix) The Department of Engineering and Technoloy, Annamalai University. The institution offers a degree course of 4 years' duration. The admission qualification is S.S.L.C., and the annual intake is 62.

(x) The College of Engineering, Guindy, Madras.

(xi) The College of Engineering (Vizagapatam), Coconada.

(xii) The Engineering College, Anantpur, Madras.

The above-mentioned institutions offer degree courses of four years' duration. The minimum admission qualification is I.A. with Science in each case. The total annual intake of the institutions for degree courses in all Engineering subjects is 124, 105 and 50 respectively.

(xiii) The College of Engineering, Bangalore. The college offers a degree course of $4\frac{1}{2}$ years' duration. The admission qualification is I.Sc. and the total annual intake for all the courses of studies offered by the College is 170.

(xiv) The College of Engineering, Travancore. The college offers a 5 years' degree course in Mechanical Engineering, with I. Sc. as the admission qualification. In addition the college offers a 3 years' diploma course in Mechanical Engineering for which the admission qualification is E.S.L.C. The annual intake is about eight students for each course.

(xv) Osmania Engineering College, Hyderabad (Deccan). The college offers a degree course of $3\frac{1}{2}$ years' duration. The admission qualification is I.Sc. and the annual intake is 55.

Eastern Region.—The following three institutions in this region provide facilities for training in Mechanical Engineering.

(*i*) The Bengal Engineering College, Sibpur, offers a degree course of 4 years' duration. The admission qualification is I. Sc. and the annual intake is 28.

(*ii*) The College of Engineering and Technology, Jadavpur, offers (*a*) a degree course of 4 years' duration, and (*b*) a diploma course of 3 years' duration. The admission qualification is I.Sc. for (*a*) and Matriculation for (*b*). The annual intake is 160 and 75 respectively.

(*iii*) The Calcutta Technical School, Calcutta, offers a diploma course of 5 years' duration. The minimum educational qualification for admission is Matriculation or Junior Cambridge Ceritficate, and the annual intake is about 159. This school mainly caters for apprentices of certain factories in and around Calcutta.

Western Region.—There are ten institutions in this region offeringe ourses in Mechanical Engineering and allied subjects : —

(*i*) The College of Engineering, Poona. The college offers a degree course of $3\frac{1}{2}$ years' duration. The admission qualification is I.Sc. and the annual intake is about 50.

(*ii*) The Victoria Jubilee Technical Institute, Bombay. The institute offers (*a*) a 4 years' diploma course, and (*b*) a 2 years' certificate course (Part-time). The admission qualification is I.Sc., or equivalent for (*a*) and Matriculation for (*b*). The annual intake is 60 and 80 respectively.

(*iii*) Kalabhavan Technical Institute, Baroda. The institute offers a diploma course of 4 years' duration. The admission qualification is Matriculation and the annual intake is about 25.

(*iv*) The Government Engineering School, Nagpur. The school offers a diploma course in Mechanical Engineering of 3 years' duration. The admission qualification is H.S.L.C. and the annual intake is 15.

(*v*) The R. C. Technical Institute, Ahmedabad. The institute offers (*a*) a diploma course of 3 years' duration, and (*b*) a part-time diploma course of 4 years' duration. Non-Matrics are admitted to both the courses and the annual intake is 30 and 15 respectively.

(*vi*) Morvi Technical Institute, Morvi, Kathiawar. The institute offers a diploma course of 3 years' duration. The admission qualification is VIIth standard of High School and the total annual intake for the Mechanical and the Electrical Engineering courses offered by the institute is 20.

(*vii*) O'brien Technical Institute, Kolhapur. The institute offers a diploma course of four years' duration. Non-Matrics are admitted to the course. Number of admissions 15 students per year.

(*viii*) The F. S. Parekh Technical Institute, Surat. The institute offers a certificate course in Mechanical Engineering of 3 years' duration. The admission qualification is VIIth standard of High School and the annual intake is 15.

(*ix*) The School of Industry, Ratnagiri. The institute offers (*a*) a certificate course in Mechanical apprenticeship of 2 years' duration, and (*b*) a certificate course of 3 years' duration in Carpentry 'A' course. The admission qualification is VIIth standard of High School in each case and the annual intake is 8 and 20 respectively.

(*x*) The Government School of Industry, Satara City. The institute offers a certificate course in Carpentry 'A' of 3 years' duration. The admission qualification is VIIth standard of High School and the annual intake is 10.

The courses offered by the last two institutions are artizan courses.

RADIO ENGINEERING

Training facilities in this subject are available in the Southern and the Northern regions.

Northern Region.—Rampur Government Polytechnic, Rampur Particulars of the course offered by the institution are not available.

Southern Region.—Sri Jayachamarajendra Occupational Institute, Bangalore. The institute offers (*a*) diploma course of 3 years' duration, and (*b*) a certificate course of 2 years' duration. The admission qualification is S.S.L.C. and the annual intake is 15 for each course.

MINING

Training facilities in this subject are available in the Northern, the Southern and the Eastern regions.

Northern Region.—The College of Mining and Metallurgy, Banaras. The college offers (*a*) a degree course of four years' duration, and (*b*) a research degree course of 3 years' duration. The admission qualification is I.Sc. for (*a*) and B.Sc. (Mining) for (*b*). The annual intake for the degree course is 16.

Southern Region.—Sri Jayachamarajendra Occupationl Institute, Bangalore. The institute offers a certificate course of 2 years' duration. Admission qualification is S.S.L.C. and the annual intake is 30.

Eastern Region.—The Indian School of Mines, Dhanbad. The institute offers (*a*) a certificate course of 4 years' duration, and (*b*) an associateship course of 5 years *i.e.*, lasting for one year after qualifying for the certificate. The admission qualification is I.Sc. and the total annual intake for both the Mining and Geology courses is 24.

METALLURGY

Facilities for training in this subject are available in the Northern, the Southern and the Eastern regions.

Northern Region.—The College of Mining and Metallurgy Banaras. The college offers (*a*) degree course of four years' duration, and (*b*) a research degree course of 3 years' duration. Admission qualification is I.Sc. for (*a*) and B.Sc. (Met.) for (*b*). The annual intake for the degree course is 26.

Southern Region.—The Indian Institute of Science, Bangalore. The institute offers an advanced diploma course in Metallurgy of 3 years' duration, half of which period is to be devoted to advanced study and research. The admission qualification is B.Sc. (Hons. I).

Eastern Region.—The Bengal Engineering College, Sibpur (West Bengal) offers a degree course in Metallurgy of 4 years' duration. The admission qualification is I.Sc. and the annual intake is 6.

APPLIED PHYSICS

Training facilities in this subject are available in the Southern and the Eastern regions.

Southern Region.—Jeypore Vikrama Deo College of Science and Technology, Andhra University, Waltair. The college offers (*a*) a degree course of 3 years' duration, and (*b*) a post-graduate course of one

year's duration. The admission qualification is I.Sc. for (*a*) and B.Sc. for (*b*). The annual intake for the degree course is 12. There is also a research degree course.

Eastern Region.—The Department of Applied Physics, University College of Science and Technology, Calcutta University, offers a post-graduate degree course of 2 years' duration. The admission qualification is B.Sc. and the annual intake is 20. The institution also offers a research degree course.

CHEMICAL TECHNOLOGY

Training facilities in this subject are available in all the regions and are as follows :—

Northern Region.—(*i*) The College of Technology, Banaras Hindu University, Banaras. The college offers (*a*) degree courses of three years' duration in Industrial Chemistry, Glass, Ceramics, and Pharmaceutics, (*b*) a post-graduate degree course of two years' duration in Industrial Chemistry and (*c*) a post-graduate degree course of one year's duration in Pharmaceutics. The admission qualification is I. Sc. for (*a*), B. Sc. (Ind. Chem.) for (*b*) and B. Pharm. for (*c*). The annual intake is about 60 students for (*a*) ; and 3 students for (*b*). The institution also offers research degree courses in Industrial Chemistry and Glass Technology.

(*ii*) The Harcourt Butler Technological Institute, Kanpur. The institute offers (*a*) a fellowship course in Chemical research of 4 years' duration, (*b*) an associateship course in chemical research of 2 years' duration, (*c*) 2 years' associateship and fellowship courses in Oil Chemistry and Technology and (*d*) short courses of 8—10 months' duration in oil milling, soap making and paints and varnishes. The admission qualification is B.Sc. for all the courses, and the annual intake is 1, 6, 31+2 and 19 respectively.

(*iii*) Delhi Polytechnic, Delhi. The institution offers an All-India Diploma Course of 5 years' duration. The admission qualification is I. Sc. or Pre-Engineering and the annual intake is 16.

(*iv*) The Government Central Textile Institute, Kanpur. The institute offers (*a*) a 4-year diploma course and (*b*) a 2 years' certificate course in Textile Chemistry only. The admission qualification is H. S. E. passed or equivalent for (*a*) and H. S. E. standard for (*b*). The annual intake is 47 and 7 respectively.

Southern Region.—(*i*) The Indian Institute of Science, Bangalore. The institute offers associateship courses in various branches of pure and applied chemistry of 2½ years' duration (5 terms). The admission qualification is B. Sc. (Hons. I) and the annual intake is 25.

(*ii*) The Jeypore Vikramadeo College of Science and Technology, Waltair, Andhra University. The college offers (*a*) a degree course of 3 years' duration in Food and Drugs and General Chemical Technology, (*b*) a post-graduate degree course in Foods and Drugs and General Chemical Technology of 2 years' duration and (*c*) a research degree course of 3 years' duration in Foods and Drugs and General Chemical Technology. The admission qualifications are I. Sc. for (*a*), B. Sc. for (*b*) and M. Sc. (Chem. Tech.) for (c). The annual intake is 24 for (*a*), and 6 for (*b*) and (*c*) combined.

(*iii*) THE INSTITUTE OF TEXTILE TECHNOLOGY, TRIVANDRUM. The institute offers a 4-year diploma course in Textile Chemistry. The admission qualification is E. S. L. C. and the annual intake is 12.

(*iv*) THE KERALA POLYTECHNIC, CALICUT. The institution offers a diploma course in Chemical Technology of 3 years' duration. The admission qualification is S. S. L. C.

Eastern Region.—THE DEPARTMENT OF APPLIED CHEMISTRY, UNIVERSITY COLLEGE OF SCIENCE AND TECHNOLOGY, CALCUTTA UNIVERSITY, offers (*a*) a post-graduate degree course in Applied Chemistry of two years' duration; and (*b*) a diploma course of one year's duration in Soap Technology. The admission qualification is B.Sc. for both (*a*) and (*b*) and the annual intake is 18 and 10 respectively. The institution also offer research degree courses in applied chemistry.

Western Region.—(*i*) THE DEPARTMENT OF CHEMICAL TECHNOLOGY, UNIVERSITY OF BOMBAY, offers degree courses of 1 year's duration in (*a*) Textile Chemistry, (*b*) Pharmaceutics and Fine Chemicals, (*c*) Food and Drugs, (*d*) Technology of Intermediates, (*e*) Paints and Varnishes and (*f*) Oils and Fats etc. The admission qualification is B. Sc. and the annual intake is 16, 12, 10, 12, 6 and 8 respectively. Besides these courses, M.Sc.(Tech.) and Ph. D. degree courses are also offered to the graduates of the institution.

(*ii*) THE LUXMINARAYAN INSTITUTE OF TECHNOLOGY, NAGPUR UNIVERSITY, NAGPUR. The institute offers a degree course of 2 years' duration in Oil Technology. The admission qualification is B.Sc. and the annual intake is 9. Besides this course, the institute offers a post-graduate research degree course to its graduates.

(*iii*) THE KALABHAVAN TECHNICAL INSTITUTE, BARODA. The institute offers a diploma course of 3 years' duration. The admission qualification is Matriculation and the annual intake is 25.

(*iv*) THE VICTORIA JUBILEE TECHNICAL INSTITUTE, BOMBAY. The institute offers a diploma course in Applied Chemistry and Chemical Technology of 4 years' duration. The admission qualification is I. Sc., and the annual intake is 20.

LEATHER TECHNOLOGY

Training facilities in this subject are available in the Northern, the Southern and the Western regions.

Northern Region.—THE TECHNICAL COLLEGE, DAYALBAGH, AGRA, offers a certificate course of 2 years' duration. The admission qualification is VII standard of high school and the annual intake is 10.

Southern Region.—(*i*) THE ALAGAPPA CHETTIAR COLLEGE OF TECHNOLOGY, UNIVERSITY OF MADRAS, offers a degree course in Leather Technology of 2½ years' duration. The admission qualification is B. Sc. and the annual intake is 6.

(*ii*) THE INSTITUTE OF LEATHER TECHNOLOGY, MADRAS. The institute offers (*a*) a diploma course of 4 years' duration and (*b*) a certificate course of 3 years duration. The admission qualification is S. S. L. C. for (*a*) and V standard of high school for (*b*). The annual intake is 12 and 8 respectively.

Western Region.—(*i*) THE GOVERNMENT LEATHER WORKING SCHOOL, BANDRA, BOMBAY. The school offers a diploma course of 2 years' duration. The admission qualification is Matriculation and the annual intake is 5.

(*ii*) THE GOVERNMENT TANNING INSTITUTE, BANDRA, BOMBAY. The institute offers a diploma course of two years' duration. The admission qualification is Matriculation and the annual intake is 5.

TEXTILE TECHNOLOGY

Facilities for training in this subject are available in all the regions and are as follows :—

Northern Region.—(*i*) DELHI POLYTICHNIC, DELHI. The institute offers (*a*) a diploma course of 3½ years' duration and (*b*) a certificate course of 3 years' duration. The admission qualification is Matriculation for both the courses and the annual intake is 13 and 12 respectively.

(*ii*) THE GOVERNMENT CENTRAL TEXTILE INSTITUTE, KANPUR. The institute offers (*a*) a diploma course of 4 years' duration and (*b*) a junior course of 2 years' duration. The admission qualification is H. S. E. passed for (a) and H. S. E. standard for (*b*). The annual intake is 47 and 7 respectively.

(*iii*) THE GOVERNMENT CENTRAL WEAVING INSTITUTE, BANARAS CANTT. The institute offers a diploma course of 3 years' duration in weaving. The admission qualification is Matriculation and the annual intake is 20.

(*iv*) THE PUNJAB INSTITUTE OF TEXTILE TECHNOLOGY, AMRITSAR. The institute offers a diploma course in Textile Technology of 3 years' duration. The admission qualification is Matriculation or equivalent and the annual intake is 20.

Southern Region.—(*i*) THE ALAGAPPA CHETTIAR COLLEGE OF TECHNOLOGY, MADRAS. The college offers a degree course of 2½ years' duration in Textile Technology. The admission qualification is B. Sc. and the annual intake is 6.

(*ii*) THE ARTHUR HOPE COLLEGE OF TECHNOLOGY, COIMBATORE. The college offers a degree course of four years' duration. The admission qualification is I. A. with science. The annual intake is 96 for all the courses of study offered by the institute, including Textile Technology.

(*iii*) SRI KRISHNA RAJENDRA SILVER JUBILEE TECHNOLOGICAL INSTITUTE, BANGALORE. The institute offers (*a*) degree course of 3½ years' duration and (*b*) a diploma course of 2½ years' duration. The admission qualification is I. Sc. for (*a*) and E. S. L. C. for (*b*) and the annual intake is 15 to 25 and 11 to 15 respectively.

(*iv*) THE INSTITUTE OF TEXTILE TECHNOLOGY, TRIVANDRUM. The institute offers a diploma course of 4 years' duration. The admission qualification is E. S. L. C. and the annual intake is 12.

(*v*) THE GOVERNMENT TEXTILE INSTITUTE, MADRAS. Particulars of the courses offered by the institute are not available.

Eastern Region.—(*i*) THE BENGAL SILK TECHNOLOGICAL INSTITUTE, BERHAMPORE, BENGAL. The institute offers a diploma course in silk Technology of 3 years' duration. The admission qualification is Matriculation and the annual intake is 19.

(*ii*) THE BENGAL TEXTILE INSTITUTE, SERAMPORE, HOOGLY. The institute offers a diploma course of 3 years' duration. The admission qualification is Matriculation and the annual intake is 40 to 50.

Western Region.—(*i*) THE VICTORIA JUBILEE TECHNICAL INSTITUTE, BOMBAY. The institute offers (*a*) a degree course in Textile Technology of 4 years' duration, and (*b*) a diploma course of the same duration. The admission qualification is I.Sc. in either case and the annual intake is 10 and 40 respectively. In addition to courses (*a*) and (*b*) the institute also offers a certificate course of 2 years' duration for which the admission qualification is Matriculation and the annual intake 21.

(*ii*) KALABHAVAN TECHNICAL INSTITUTE, BARODA. The institute offers a diploma course in Weaving Technology of 3 years' duration. The admission qualification is Matriculation and the annual intake is 25.

(*iii*) THE R. C. TECHNICAL INSTITUTE, AHMEDABAD. The institute offers a certificate course in Weaving and Spinning of 3 years' duration. The admission qualification is Vth standard of high school. Number of admissions—40 students per year.

GEOLOGY

Training facilities in this subject are available in the Northern, the Southern and the Eastern regions :—

Northern Region.— THE DEPARTMENT OF GEOLOGY, BANARAS HINDU UNIVERSITY, BANARAS. The institution offers (*a*) a post-graduate degree course in Geology of 2 years' duration, and (*b*) a degree course of the same duration. The admission qualification is B.Sc. (Geology) for (*a*) and I.Sc. for (*b*). The annual intake is 15 and 80 respectively.

In addition to the above courses the institution offers a research degree course for which the admission qualification is M.Sc. degree in Geology. Number of admissions—2 students per year.

Southern Region.—(*i*) THE ERSKINE COLLEGE OF NATURAL SCIENCE, ANDHRA UNIVERSITY, WALTAIR. The college offers (*a*) a 2-year degree course, (*b*) a 3-year Honour's degree course, and (*c*) a post-graduate degree course of one to two years' duration. The admission qualification is I.Sc. for (*a*) and (*b*) and B.Sc. for (*c*) 2 years' course and B.Sc. (Hons.) for (*c*) one year's course. The annual intake is 18, 8 and 6 respectively.

In addition to the above-mentioned courses there is a research degree course of 3 years' duration with M.Sc. as the admission qualification. Number of admissions—6 students per year.

Eastern Region.—THE INDIAN SCHOOL OF MINES, DHANBAD, BIHAR, offers (*a*) a certificate course of four years' duration, and (*b*) an associateship course of 5 years' duration, *i.e.*, lasting for one year after the certificate. The admission qualification is I.Sc. for both the courses. The total annual intake for both Mining and Geology courses is 24.

ARCHITECTURE

Training facilities in this subject are available in the Northern and the Western regions.

Northern Region.—THE DELHI POLYTECHNIC, DELHI. The institution offers (*a*) an All-India Diploma course in Architecture of 6 years' duration, and (*b*) a part-time All-India Certificate course of the same duration. The admission qualification is Matriculation or equivalent and the annual intake is 12 in each case.

Western Region.—(*i*) SIR J. J. SCHOOL OF ARTS, BOMBAY. The school offers a diploma course of five years' duration. The admission qualification is Matriculation and the annual intake is 30.

(*ii*) THE KALABHAVAN TECHNICAL INSTITUTE, BARODA. The institute offers a diploma course of four years' duration. The admission qualification is Matriculation and the annual intake is 5.

ARTS

Training facilities in this subject are available in all the regions and are as follows :—

Northern Region.—(*i*) THE DELHI POLYTECHNIC, DELHI. The institution offers (*a*) an All-India Diploma Course of 5 years' duration, and (*b*) a part-time All-India Certificate course of the same duration. The admission qualification is Matriculation in either case and the annual intake is 6 and 9 respectively.

(*ii*) THE GOVERNMENT SCHOOL OF ARTS AND CRAFTS, LUCKNOW. The school offers (*a*) a diploma course of five years' duration in various branches of Applied Art, and (*b*) a certificate course of 2 years' duration for teachers of drawing. The admission qualification is IVth school standard with ability to draw for (*a*) and H.S.E. passed for (*b*). The annual intake is 32 and 8 respectively.

(*iii*) THE GOVERNMENT TECHNICAL INSTITUTE, LUCKNOW. The institute offers a certificate course in Painting of 3 years' duration. Admission qualification—should be literate. Number of admissions—10 students per year.

Southern Region.—(*i*) THE CENTRAL SCHOOL OF ARTS AND CRAFTS, HYDERABAD (DECCAN). The school offers diploma courses of 5 years' duration in Painting and Sculpture. The admission qualification is VIIIth standard of high school with Inter Drawing Certificate. Number of admissions—10 students per year.

(*ii*) H. H. THE MAHARAJA'S SCHOOL OF ARTS, TRAVANCORE. The school offers certificate courses of 4 years' duration in (*a*) Drawing and Painting, (*b*) Clay Modelling. The annual intake is 14 and 4 respectively.

(*iii*) THE SCHOOL OF ARTS AND CRAFTS, MADRAS. The school offers a certificate course of 2 years' duration. Admission qualification is IVth standard of high school, and the annual intake is 25.

Eastern Region.—THE GOVERNMENT SCHOOL OF ARTS, CALCUTTA. The school offers a diploma course of 5 years' duration. The admission qualification is Matriculation or equivalent, and the annual intake is 50.

Western Region.— (*i*) SIR J. J. SCHOOL OF ARTS, BOMBAY. The institute offers the following diploma courses:—

(*a*) 7 year course in Drawing and Painting.
(*b*) 4 year course in Commercial Art, and
(*c*) 5 year course in Modélling.

Admission qualification Matriculation for (*b*) and Intermediate drawing grade for (*a*) and (*c*). The annual intake is 30, 125 and 6 respectively.

The institute also provides a drawing teacher's certificate course of one year's duration. Admission qualification intermediate drawing grade. Number of admissions 40 per year.

(*ii*) KALABHAVAN TECHNICAL INSTITUTE, BARODA. The institute offers a diploma course of four years' duration. The admission qualification is Matriculation and the annual intake is 5.

COMMERCE

Facilities for training in this subject are available in all the regions and are as follows :—

Northern Region.—(*i*) THE DEPARTMENT OF COMMERCE, BANARAS HINDU UNIVERSITY, BANARAS. The institute offers (*a*) a diploma course of 2 years' duration, (*b*) a degree course of the same duration, (*c*) a post-graduate degree course of one year's duration, and (*d*) a research degree course of two years' duration. The admission qualification is Matriculation for (*a*) I. Com. for (*b*) and B.Com. for (*c*). The annual intake is 134, 103 and 20 for (*a*), (*b*) and (*c*) respectively.

(*ii*) THE BIKRAM COLLEGE OF COMMERCE, FARDIKOT (EAST PUNJAB). The college offers a degree course of two years ' duration. The admission qualification is I.Com. and the annual intake is 4.

(*iii*) SETH G. B. PODDER COLLEGE, NAWALGARH, JAIPUR. The college offers a degree course of 2 years' duration. Admission qualification is I.Com.

(*iv*) SHYAM SUNDER MEMORIAL COLLEGE, CHANDAUSI, UNITED PROVINCES. The institution offers (*a*) a diploma course, and (*b*) a degree course of two years' duration each. The admission qualification is H.S.E passed for (*a*) and I.Com. for (*b*). The annual intake is 55 and 22, respectively.

(*v*) THE DELHI POLYTECHNIC, DELHI. The institution offers (*a*) an All-India Diploma course of 3 years' duration, and (*b*) a part-time All-India Certificate course of the same duration. The admission qualification is Pre-Commerce or Higher Secondary Certificate for (*a*) and Matriculation for)*b*). The annual intake is 12 and 15 respectively.

SouthernRegion.— (*i*) THE CENTRAL SCHOOL OF COMMERCE, HYDERABAD (DECCAN). The school offers a diploma course in Commerce of 2 years' duration. The admission qualification is S.S.L.C. and the annual intake is 28.

(*ii*) THE SANATAN DHARMA COLLEGE, ALLEPPEY, TRAVANCORE. The college offers a diploma course in commerce of 4 years' duration. The admission qualification is S.S.L.C. and the annual intake is 101.

(*iii*) THE CENTRAL COLLEGE, BANGALORE. The college offers a degree course of 4 years' duration. The admission qualification is S.S.L.C. and the annual intake is 143.

Eastern Region.—(*i*) RAJENDRA COLLEGE CHAPRA, BIHAR. The institute offers (*a*) a diploma course of two years' duration and (*b*) a degree course of the same duration. The admission qualification is Matriculation for (*a*) and I. Com. for (*b*). The annual intake is 150 and 67 respectively.

(*ii*) HARPRASAD DAS JAIN COLLEGE, ARRAH, BIHAR. The college offers a degree course of four years' duration. The admission qualification is Matriculation and the annual intake is 32.

(*iii*) SAMBALPUR COLLEGE, SAMBALPUR, ORISSA. The institution offers (*a*) a diploma course and (*b*) a degree course—both of 2 years' duration. The admission qualification is Matriculation for (*a*) and I. Com. for (*b*) and the annual intake is 202 and 75 respectively

(*iv*) THE GOVERNMENT COMMERCIAL INSTITUTE, CALCUTTA. The institute offers a diploma course of 2 years' duration. The admission qualification is Matriculation and the annual intake is 97.

Western Region.—(*i*) BRIHAN MAHARASTRA COLLEGE OF COMMERCE, POONA. The college offers (*a*) a degree course of 4 years' duration and (*b*) a post-graduate degree course of 2 years' duration. The admission qualification is Matriculation for (*a*) and B. Com. for (*b*). The annual intake for the degree course is 170.

(*ii*) HARGOVAN DAS LUXMICHAND COLLEGE OF COMMERCE, AHMEDABAD. The college offers (*a*) a degree course of 4 years' duration and (b) a post-graduate degree course of 2 years' duration. The admission qualification is Matriculation for (a) and B.Com. for (*b*). The annual intake for both the courses is 275.

(*iii*) PARTAP SINGH COLLEGE OF COMMERCE, BARODA. The institution offers (*a*) a degree course of two years' duration and (*b*) a post-graduate degree course of the same duration. The admission qualification is I. Com. for (*a*) and B. Com. for (*b*).

(*iv*) RAMANI RANJAN ANNANDI LAL PODDER COLLEGE OF COMMERCE, BOMBAY. The institution offers (*a*) a degree course of 2 years' duration and (*b*) a post-graduate degree course of the same duration. The admission qualification is I. Com. for (*a*) and B. Com. for (*b*).

(*v*) GOVINDRAM SEKSARIA COLLEGE OF COMMERCE, NAGPUR.

(*vi*) GOVINDRAM SEKSARIA COLLEGE OF COMMERCE, WARDHA. The two institutions mentioned above offer a degree course of 2 years' duration. The admission qualification is I. Com., and the annual intake is 145 and 103 respectively.

The foregoing is an outline of the training facilities at present available in India in the different branches of Engineering, Technology, Art, Architecture and Commerce. Detailed information regarding the facilities available in each region and particulars of individual institutions are given in the subsequent chapters.

It may be noted, that the duration of course includes, in certain cases, a period of practical training varying from three months to one year where such training forms an integral part of the course.

Classified list of Technical Institutions referred to in this report

I. ENGINEERING AND TECHNOLOGY

Group 'A' Institutions

Reference No.	Name and address
	Northern Region—
N-1	College of Technology, Banaras Hindu University, Banaras.
N-2	Department of Geology, Banaras Hindu University, Banaras.
N-3	Harcourt Butler Technological Institute, Kanpur, U. P.
N-4	Indian Institute of Sugar Technology, Kanpur.
	Southern Region—
S-1	Erskine College of National Science, University of Andhra, Waltair.
S-2	Indian Institute of Science, P. O. Malleswaram, Bangalore.
S-3	Jeypore Vikram Deo College of Science, and Technology, University of Andhra, Waltair.
	Eastern Region—
E-1	University College of Science and Technology, Department of Applied Physics and Applied Chemistry, Calcutta University, Calcutta.
	Western Region—
W-1	Department of Chemical Technology, University of Bombay, Matunga, Bombay.
W-2	Luxminarayan Institute of Technology, Nagpur University, Nagpur, C. P.

Group 'B' Institutions

	Northern Region—
N-5	College of Engineering and Technology, Aligarh Muslim University, Aligarh, U. P.
N-6	College of Mining and Metallurgy, Banaras Hindu University, Banaras.
N-7	Delhi Polytechnic, Delhi.
N-8	Engineering College, Banaras Hindu University, Banaras.
N-9	Thomason Engineering College, Roorkee, U. P.
	Southern Region—
S-4	Alagappa Chettiar College of Technology, University of Madras, Saidapet, Guindy, Madras.
S-5	Arthur Hope College of Technology, Coimbatore, Madras.
S-6	College of Engineering, Guindy, Madras.
S-7	College of Engineering, University of Travancore, Trivandrum, Travancore State.

S-8	College of Engineering (Vizag) Coconada, Madras.
S-9	College of Engineering, Bangalore, Mysore.
S-10	Department of Engineering and Technology, Annamalai University, Annamalainagar, Madras.
S-11	Engineering College, Anantpur, Madras.
S-12	Osmania Engineering College, P. O. Lallaguda, Hyderabad (Deccan).
S-13	Sri Krishnarajendra Silver Jubilee Technological Institute, Bangalore, Mysore.
	Eastern Region—
E-2	Bengal Engineering College, P. O. Botanic Garden, Howrah, West Bengal.
E-3	Bihar College of Engineering, Patna, Bihar.
E-4	College of Engineering and Technology, Jadavpur, Calcutta.
E-5	Indian School of Mines, Dhanbad, Bihar.
	Western Region—
W-3	College of Engineering, Poona, Bombay.
W-4	Victoria Jubilee Technical Institute, Matunga, Bombay.

Group 'C' Institutions

	Northern Region—
N-10	Government Central Textile Institute, Kanpur, U. P.
N-11	Government Central Weaving Institute, Banaras, U. P.
N-12	Government Technical Institute, Gorakhpur, U. P.
N-13	Government Technical Institute, Jhansi, U. P.
N-14	Government Technical Institute, Lucknow, U. P.
N-15	Government Metal Works Institute, Ambala City, East Punjab.
N-16	Punjab Institute of Textile Technology, Amritsar, East Punjab.
N-17	Technical College, Dayalbagh, Agra, U. P.
N-18	The Civil Engineering School, La-Touche Road, Lucknow, U. P.
	Southern Region—
S-14	Government School of Technology, Pophams, Broadway, Madras.
S-15	Government Textile Institute, Washermanpet, Madras.
S-16	Institute of Textile Technology, University of Travancore, Trivandrum.
S-17	Institute of Leather Technology, Washermanpet, Madras.
S-18	Osmania Technical College, Hyderabad (Deccan).
S-19	Sri Jayachamarajendra Occupational Institute, Bangalore, Mysore.
S-20	The A. G. Polytechnic, Vuyyur, Madras.
S-21	The Andhra Polytechnic, Coconada, Madras.
S-22	The Central Polytechnic, Madras.
S-23	The Dravida Polytechnic, Madura, Madras.
S-24	The Kerala Polytechnic, Calicut, Madras.
S-25	The Karnataka Polytechnic, Mangalore, Madras.

Eastern Region—

E-6 Bengal Textile Institute, Serampore, Hoogly, West Bengal.
E-7 Bengal Silk Technological Institute, Berhampore, West Bengal.
E-8 Calcutta Technical School, Sir Surendranath Banerjee Road, Calcutta.
E-9 Calcutta Engineering College, 13 Jamir Lane, Ballygunge, Calcutta.
E-10 Kanchrapara Technical School, Kanchrapara, West Bengal.
E-11 Orissa School of Engineering, Cuttack, Orissa.

Western Region—

W-5 Kalabhavan Technical Institute, Baroda.
W-6 Government Engineering School, Sadar Bazar, Nagpur, C. P.
W-7 Government Tanning Institute, Bandra, Bombay 20.
W-8 Government Leather Working Institute, Bandra, Bombay 20.
W-9 Sir Cusrow Wadia Institute of Electrical Technology, 19 Bund Garden Road, Poona, Bombay.

Group 'D' Institutions

Northern Region—

N-19 Rampur Government Polytechnic, Rampur State, U. P.
N-20 Technical College, Jodhpur, Rajputana.
N-21 The Engineering College, Civil Lines, Ludhiana, East Punjab.

Western Region

*W-10 Government School of Industry, Satara City, Bombay.
W-11 O'Brien Technical Institute, Sholapur, Bombay.
W-12 The Morvi Technical Institute, Morvi, Kathiawar.
*W-13 The F. S. Parekh Technical Institute, Chowkbazar, Surat, Bombay.
W-14 The R. C. Technical Institute, Railwaypura, Ahmedabad.
*W-15 School of Industry, Ratnagiri, Bombay.

II. ART AND ARCHITECTURE

Group 'B' Institutions

Northern Region—

N-7 Delhi Polytechnic, Delhi.

Eastern Region—

E-12 Government School of Arts, Chowringhee Road, Calcutta.

Western Region—

W-16 Sir J. J. School of Arts, Hornby Road, Fort, Bombay.

*Does not satisfy all the requirements of a Group 'D' institution as defined in this report.

Group 'C' Institutions

Northern Region—

N-22 Government School of Arts and Crafts, Lucknow, U. P.

Southern Region—

S-26 Central School of Arts and Crafts, Hyderaguda, Hyderabad (Deccan).
S-27 H. H. The Maharaja's School of Arts, Trivandrum, Travancore.

Western Region—

W-5 Kalabhavan Technical Institute, Baroda.

Group 'D' Institutions.

Northern Region—

N-14 Government Technical Institute, Lucknow, U. P.

Southern Region——

S-28 School of Arts and Crafts, Poonamali High Road, Park Town, Madras.

III. COMMERCE.

Group 'A' Institutions.

Northern Region—

N-23 Department of Commerce, Banaras Hindu University, Banaras.

Western Region—

W-17 Brihan Maharashtra College of Commerce, Poona, Bombay.
W-18 Hargovan Das Luxmichand College of Commerce, Ahmedabad, Bombay.
W-19 Pratap Singh College of Commerce, Baroda.
W-20 Ramani Ranjan Annadilal Podder College of Commerce, Matunga, Bombay.

Group 'B' Institutions.

Northern Region—

N-24 Bikram College of Commerce, Faridkot, Punjab.
N-7 Delhi Polytechnic, Delhi.
N-25 Seth G. B. Podder College, Nawalgarh, Jaipur, Rajputana.
N-26 Shyamsundar Memorial College, Chandausi, U. P.

Southern Region—

S-29 Central College, Bangalore, Mysore.

Eastern Region—

E-13 Harprasad Das Jain College, Arrah, Bihar.
E-14 Rajendra College, Chhapra, Saran, Bihar.
E-15 Sambalpur College, Sambalpur, Orissa.

Western Region—

W-21 Govind Ram Seksaria College of Commerce, Nagpur, C. P.
W-22 Govind Ram Seksaria College of Commerce, Wardha, C. P.

GROUP 'C' INSTITUTIONS.

Southern Region—

S-30 Central School of Commerce, Saifabad, Hyderabad (Deccan).
S-31 Sanatan Dharma College, Alleppey, Travancore.

Eastern Region—

E-16 Government Commercial Institute, 5, Clive Street, Calcutta.

GIPD—M6 MofEd.—15-4-48—75

Edn. II

From the Govt. of India, Ministry of Edn.
No. F.1-5/58 dated 13-2-58

From the D.P.S. Regn. 612-Edn/58 dated 17-2-58.

All India Council for Technical Education - Agenda for 7th meeting

In their letter at (1) the Govt. of India have enquired whether the Prov. Govt. have any subject for discussion at the forthcoming meeting of the All India Council for Technical Education which is to be held at Bombay on the 22 & 23rd of this month. The D.P.S. who was consulted in this matter has suggested that the location of the Higher Technical Institute proposed to be established at Madras, may be included in the agenda for the meeting.

2. The file dealing with the establishment of the H.T. Institute has been sent to Dev. dept. P.W.D. The proposal is at (2). A note on the scheme proposed in another connection is put up at (3). It will be seen from para 3 of the note, that two alternative sites are being considered in connection with the location of the Institute. The question of acquiring a site near the Engineering Guindy or near Tambaram has been referred to the Collector of Chingleput and his report in the matter is awaited. As regards the question of locating the Institute in Madras, Dr. Rudra was asked to visit the

Avadi Base and send a report. This report has been received. Dr. Rudra has suggested that the Govt. of India should be asked to send one of their representatives to visit Avadi and help arriving at a final decision. In that file the question was raised whether the question of location of Institute and that of a representative of the Govt. of India visiting Avadi in this connection may not be discussed at the forthcoming meeting of the All India council of Tech. Edn. Secy. has suggested that the subject - location of Institute may be discussed at the meeting, but that it is better to have the Govt. of India representative visit Avadi before that meeting so that the his recommendations also might be available for discussion at the meeting. But as the time before the meeting is short and as the report of the collector of Chingleput regarding the other two sites has not been received it is for consideration whether the subject may not be postponed for discussion at some other meeting of the All India council when the Govt. may be expected to have finalised their proposals regarding the establishment of the Institute.

3/ With reference to the letter at ppn-2 ct and the letter at pp 5 ct, of the linked file Edn. 22(56) A[57], the Govt. of India have of their own accord included in the Agenda for the meeting, the subject of organising apprenticeship training and providing facilities for

for the training of students in Tele-Communication Engineering in the AIR. The Govt. of India have asked for an explanatory note only in respect of subjects put suggested by this Govt. As this subject has been included by them suo motu and them as they are in possession of the facts of the case, it may be expected that they will send their representatives on the All India council will come prepared with a note for the meeting. No note from this Govt. is necessary.

4/ Dev. & P.W.D. may see and say urgently whether they have any subjects for inclusion in the agenda for the forthcoming meeting and if they have, to send a self contained memorandum for the item proposed for inclusion.

Edn. Secy. 11612 ct/pp 1-2
9.4.48.

To H.S.

Note from pp 1-3 above may be perused. As far as this dept is concerned, there is no subject for inclusion in the agenda at present (The last date for inclusion of subjects is the 15th March but it is informally understood that a supply to the GoI will be sent known to the extn, it is not possible to know all

Dev Dept

As far as this dept is concerned, there is no subject for inclusion in the agenda for the forthcoming meeting. With these remarks the file may be passed on to the P.W. Dept.

Dev. no. 42210-D1/48-1

14.4.48 proy

P&D Dept

the CEs in the matter. Though it might have been desirable to do so, had time permitted).

The file may be returned to Edn & P.H.

15/4 Edn & P.H

15/4/48

27699

Edn. & P.H. (Edn.) Proc.

20404/47

15 subjects.

Edn. and P.W. have no subjects for inclusion in the agenda for the meeting. As regards the orders of Govt. on page 2 ante, it is submitted that a copy of the agenda for the meeting as finalised by the Govt. of India has already been received and that no more subject can be included now in the agenda. Perhaps, the subject of "Location of higher technical institute" may be postponed to the next meeting for orders. (The file on the subject is linked below for reference).

Submitted.

15/4/48 S

15/4/48 Secy. (Edn.)

0839 15/4

15/4

16.4.48

No reply to the G.O.I. with reference to that Govt's. letter (copy) at p. 5 ante is necessary now. Perhaps, the D.P.I. may be informed that the subject may be brought before the next meeting. The draft memo. below is for approval.

16/4/48

17/4/48

SECRETARY, EDN. AND P. H. DEPT. 16 APR 1948 GOVERNMENT OF MADRAS

× p. 6 ante

Routine:- Draft has not been approved by H.S. - Regd. for approval of draft

19/4/48

× File containing the letter under ⓐ on p. 1 H.M. (Edn.)

ⓧ obtained from Pub. Dept. informally.

Edn. P.H.

(224)

{Cir. 25809 c1/48} From the Dir. of Dt. Dist.

Cir. 1187-C2/48 dated 5-2-48.

All India council for technical Edn. - 3rd meeting - Deputing provincial nominee

In letter No Cir. 755 Edn. dated 2-2-48, the Govt. have agreed to their being represented on the All India council of Technical Edn. by the H.M. (Edn.), instead of by the Dt. D. I. & E. But prior to the issue of orders, the Dt. D. I. & E. as the provincial representative on the council has made all arrangements for attending the 3rd meeting of the council which is to be held at Bombay on the 22nd & 23rd of this month. Attention is invited in this connection to the letter in the current file and to the letter in the current file of the limited file Cir. 25809 c1/48. It is for consideration whether in view of this, and in view of 'A' at p. 3 ante, the Dt. D. I. & E. may be allowed to attend the forthcoming meeting as the provincial nominee and the fact intimated to the Govt. of India at once by wire if necessary, except with reference to the orders in ⓐ, H.M. (Edn.) should attend this and all future meetings.

Dev. may see before circulation.

P I

26330

SIXTH ASSISTANT SECRETARY TO GOVERNMENT DEVELOPMENT DEPARTMENT

9/4/48

9/4/48 S

Govt

Dev. Dept.

Edn. Cir. 25089 c1/48.

9-4-48.

Dev. Dis. 41161 (A) Dt/48

10.4.48

Read 11.4.48 12 noon.

may be perused and returned to Edn. & P.H.

CP 9.4.48

S

Edn. & P.H.

L & S. H(C,) Deptt.

This and the two linked files below were all marked for Dev. Deptt. L.F. III below was linked for reference. But Dev. Deptt. were not noted on the two linked files below. This may therefore be returned to them for noting on the linked files also. L.F. I. may be retained by them as it is their file, L.F. III and L.F. II may be sent by them to P.W. and this incoming file may be returned to this Deptt.

12/4/48 Dev Deptt

To A.S.

Notes at pp 1-2 above may be perused ~~and transcribed~~ P.W. Deptt. L.F. I has been removed and retained in this dept. for separate action. L.F. II and L.F. III are being sent to P.W.D. separately with this dept's note. With their remarks, this may be returned to S & P.H.

12/4/48 12/4/48 Dev Deptt

cpp 14.4.48 S.A.P.H.

14/4/48

Edn. H(C) 14.4.48.

From the Govt. of India, M. of Edn. No. F.1-3/48-E.III(B)

Please see the further communication from the Govt. of India at p 5 cr. The file may now be circulated for orders whether H.M.(Edn) will attend the meeting and if so, whether to 'H' and 'N' at p 5 cr. will be agreed to, or whether as suggested at plant the Secy. will be asked to attend.

14/4/48 14/4/48 Mr. (Cr.)

14/4/48 14/4/48

P.T.O.

ASST. SECRETARY TO GOVERNMENT EDUCATION AND PUBLIC HEALTH DEPT. 14 APR 1948 GOVERNMENT OF MADRAS

SECRETT. EDN. AND P. H. DEPT. 19 APR 1948 GOVERNMENT OF MADRAS

SECRETT. EDN. AND P. H. DEPT. 19 APR 1948 GOVERNMENT OF MADRAS

I am attending the meeting at Bombay. That information may be sent to the Bombay Government by wire.

1 S A

19-4-48

It is presumed that H.M. agrees to 'H' and 'N' on page 5 cr. A draft telegram is submitted below for approval. H.M. may perhaps see before issue.

19/4/48 19/4/48 Mr. (Cr.)

I am not staying in the Taj. I am staying in the Ritz and so, that portion of the wire may be omitted.

1 S A

19.4.48

The revised draft below is for approval.

19/4/48

The telegram has been issued. The file may now be circulated to the H.M. for use at the conference. The file relating to item 9 at p 2 of (3) is also linked for reference.

20/4/48 20/4/48 Mr. (Cr.)

Secy A (Copying the file) 20/4

0843 20/4

The file has been returned by H.M. (Edn) after the conference. The papers may be added to the linked files (CW. 11612 cr. pp.). and, for future reference, the Order No. 1139 Edn., dated 6-5-48.

Recorded.

29/4/48

Education - All India Council for Technical Education - Agenda for third meeting - Papers recorded.