

Government of Madras.

EDUCATIONAL DEPARTMENT.

Recd.

Regd.

} 1913.

Enclosures

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G.O. No. 645, 11th July 1913.

College of Engineering, Madras.

Recording report on the working of the — during the year 1912-13.

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GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

READ—the following paper :—

Letter—from the Hon'ble Sir ALFRED GIBBS BOURNE, D.Sc., F.R.S., K.C.I.E., Director of Public Instruction.
To—the Secretary to Government, Educational Department.
Dated—Madras, the 10th June 1913.
No.—Ref. on Cur. 3235.

I have the honour to submit herewith a copy of my Proceedings R.C. No. 3235 of 1913, dated 22nd May 1913, reviewing the report on the working of the College of Engineering, Madras, during 1912-13.

ENCLOSURE.

Proceedings of the Director of Public Instruction Ref. on Cur. No. 3235/13, dated 22nd May 1913.

Letter—from W. H. JAMES, Esq., B.Sc., Principal, College of Engineering, Madras.
To—the Director of Public Instruction, Madras.
Dated—the 16th April 1913.
No.—437 C.

I have the honour to submit the administration report of the College of Engineering for the academic year 1912-13.

2. Staff.—During my absence on special leave for three months and six days in continuation of the vacation, Mr. M. Brown, Executive Engineer, Public Works Department, acted as Principal and he reverted when I returned to duty on October 21st, 1912.

M.R.Ry. B. Hanumantha Rao Avargal, B.A., I.S.O., retired on superannuation pension with effect from November 27th, 1912, after 18 years and 7 months' meritorious service in the college, and was succeeded on that day by M.R.Ry. K. R. Ramaswami Aiyangar Avargal, M.A., L.T., from the Teachers' College, Saidapet.

An important change was introduced about the beginning of the session by the decision to provide for the subordinate teaching staff by the temporary transfer for ordinarily three-year periods of subordinates from the Public Works Department, and the College assistants holding permanent appointments were accordingly removed from the Educational List and placed on the cadre of the Public Works Department as follows :—

Mr. W. C. H. Littlewood	...	...	First Grade Supervisor.
M.R.Ry. S. Subrahmanya Aiyar	...	...	Second Grade Supervisor.
" V. S. Pranatharthihara Aiyar	...	...	First Grade Overseer, with a personal allowance of Rs. 15.
" T. R. Venkatesa Aiyar	...	...	Second Grade Overseer, with a personal allowance of Rs. 5.
" K. C. Subbiah Chetti	...	...	Second Grade Overseer.

The change naturally did not affect the positions of the Assistant Instructors serving on temporary transfer at the time from the Public Works Department. Of the junior instructors mentioned above, M.R.Ry. V. S. Pranatharthihara Aiyar and M.R.Ry. T. R. Venkatesa Aiyar were posted to the Public Works Department for duty in June last together with Assistant Instructors M.R.Ry. V. S. Swaminatha Aiyar and M.R.Ry. R. S. Rajangam Aiyar. Their places were taken by four Upper Subordinates, viz. :—

M.R.Ry. S. Siva Rao; M.R.Ry. R. Itajagopalachari; M.R.Ry. C. V. Shunmugha Mudaliyar; Mr. J. A. David; and all these, except the last named, joined for duty at the beginning of the term. Mr. David was unwell at the time and did not present

himself until July 26th, but I regret to state that he was again seized with illness and died on August 22nd, 1912. He was replaced by M.R.Ry. K. Subrahmanya Aiyar who joined the College on September 9th, 1912.

I regret also to have to record the death on November 16th, 1912, of Mr. W. C. H. Littlewood, Assistant Instructor in Civil Engineering. He was a former student of the College and joined the staff a few years after the termination of his course, and served faithfully thereon for a period of over 20 years. Conductor R. S. Sheridan, Supervisor, First Grade, Public Works Department, was posted for this appointment and joined the College on December 14th, 1912.

M.R.Ry. K. Subrahmanya Aiyar was transferred for special duty from 25th January 1913 to 24th February 1913 to the Office of the Chief Engineer, Public Works Department, and was replaced during that time by M.R.Ry. K. Srinivasa Aiyangar, B.A., B.E., of the Technical Section, Public Works Department.

At about the same time M.R.Ry. C. V. Shunmugha Mudaliyar, Assistant Instructor in Surveying, was re-transferred to the Public Works Department and M.R.Ry. K. R. Krishnaswami Aiyar, an Upper Subordinate, was appointed in his place. The latter joined for duty on the afternoon of January 28th and relieved Mr. Shunmugha Mudaliyar at Survey Camp on the following day.

Mr. H. G. Landeman was exempted from the age rule and confirmed in his appointment as Workshop Instructor with retrospective effect from the 1st September 1910.

The services of Mr. M. Hadfield, sub. *pro tem*. Instrument Repairer, were dispensed with on 14th July 1912 on account of incapacity for further service and Mr. T. J. Rozario was appointed in his place on July 17th.

In October last Mira Khan, Gymnastic Instructor, was posted to the Kumbakonam College and Ghouse Khan, Gymnastic Instructor of that institution, was transferred here, and he reported himself for duty on the forenoon of October 21st. He, however, became unwell soon after his transfer and was finally granted medical leave for one year which took effect from January 3rd, 1913. Narayanan Nair, Gymnastic Instructor of the Government College, Mangalore, was appointed to act in place of Ghouse Khan and joined for duty on January 31st, 1913.

M.R.Ry. A. Sivasankara Mudaliyar, Head Clerk, was granted privilege leave for three months from July 13th, 1912, and during his absence I. Narayanaswami Aiyar, First Assistant Clerk, acted in the senior appointment, and T. Vedantachari, Second Assistant Clerk, in the appointment of first assistant clerk. A substitute was temporarily employed to perform the duties of the latter.

Combined privilege leave and furlough for one year was granted to M.R.Ry. N. Ramanujachari, Accountant, with effect from 27th September 1912, but on his own application he returned to duty on March 27th, 1913, after six months had elapsed. M.R.Ry. V. Jagannadam Pillai from the office of the Director of Public Instruction held the acting appointment during the absence of M.R.Ry. N. Ramanujachari.

3. The number of students on the rolls at the end of the academic year was—

Class.	Practical course.	In college.			
		Third year.	Second year.	First year.	Total.
Engineer	19	23	19	24	85
Upper subordinate	19	30	30	..	79
Lower do.	..	50	..	..	50
Probationary subordinate	..	..	79	102	181
Total ..	38	103	128	126	396

Excluding the students engaged in the practical course the total number of students actually on the rolls as attending the college on the 31st March 1913 was 357.

The totals corresponding to the latter figure for the five preceding years were—

Year.	Number.
1911-12	308
1910-11	272
1909	213
1908	256
1907	315

The increase in the total for the year under report is due to the larger classes being formed under the revised rules.

The distribution of the students by classes of community, districts, wealth and occupation of parents is given in Appendices A, B and C.

Of the total number 72.0 per cent. were Brahmans, 15.7 per cent. Non-Brahman Hindus, 5.6 per cent. Indian Christians and .8 per cent. Muhammadans.

The percentages of Brahmans, Non-Brahman Hindus and Muhammadans have slightly risen while that for Europeans and Eurasians has fallen a little this year. The percentage of Indian Christians has remained stationary.

As regards districts 23.5 per cent. of the total numbers belonged to Tanjore; 9.8 per cent. to Kistna; 8.9 per cent. to Gōdāvari; 8.6 per cent. to Malabar; 7.0 per cent. to Trichinopoly; 4.5 per cent. to Tinnevely; 3.6 per cent. to Travancore; 3.4 per cent. to Madura; 3.0 per cent. each to Madras, Mysore, South Arcot, Guntūr and Cochin. 2.2 per cent. to Coimbatore; 1.7 per cent. to Chingleput; 1.0 per cent. each to North Arcot and South Canara; 0.8 per cent. each to Rāmnād and Salem; 0.6 per cent. each to Ganjām, Vizagapatam, Cuddapah and Pudukkōtai.

4. *Admission of students.*—One hundred and four candidates for admission to the Engineer class were registered, of whom 24 were admitted to the class.

For the probationary class there were 19 Military and 382 Civil candidates, and from these 5 Military and 97 Civil were selected for admission.

As in the previous year considerable difficulty was experienced owing to a number of the candidates selected not putting in an appearance at the commencement of the term, but it is hoped the change in dates for the period of the vacation will obviate this inconvenience.

5. *Examinations: senior division.*—The Civil branch consisted of 17 students. Of these 16 passed the final examination, three with honours. The student who failed rejoined the division at the beginning of the current session. The average percentage of marks gained was 58.0.

Three students constituted the Mechanical branch. All passed the final examination, one with honours, gaining 59.4 per cent. of the total marks.

Intermediate division.—The Civil and Mechanical branches of this division consisted of 20 and two students respectively and all qualified for promotion.

Junior division.—There were 23 students in this division. Four of them failed to qualify for promotion and withdrew from the College. Of the 19 students who passed the Sessional Examination, three elected to prosecute their studies in the Mechanical and the remaining sixteen in the Civil branch.

Upper Subordinate Class, Senior division.—This division contained 19 students and all passed the final examination, four with honours.

Intermediate division.—There were 31 students in this division and all qualified for promotion except one who stayed on in the same division for another year.

Junior division.—This division consisted of 33 students. All with the exception of three passed the Sessional Examination, and of these latter two joined the second year division of the Probationary subordinate class and the other one resigned.

The average marks obtained by the three divisions of the upper subordinate class were 60.8, 58.9 and 60.7 per cent. respectively.

Lower Subordinate Class.—The Senior and Intermediate divisions of this class contained 31 and 52 students respectively. All the students of the senior division passed the final examination, three with honours. Two students who belonged to the

Intermediate division failed to qualify for promotion. One of them elected to join the second year division of the probationary subordinate class and the other left the college.

There was no junior division of this class owing to the formation of the probationary subordinate class under the revised college rules.

Particulars of the marks obtained in the several branches of the examinations are given in Appendix D.

6. *Honours and distinctions, Madras.*—The college medals for the session were awarded to the undernamed final year students.

Engineer Class.

Gold medal—L. Venkatakrishna Aiyar.

Upper Subordinate Class.

Silver medal—Sergt. R. Hartley.

Lower Subordinate Class.

Bronze medal—S. Ramakrishna Aiyar.

The Harris Gold medal for proficiency in Electrical Engineering was awarded to L. Venkatakrishna Aiyar and the DeWinton Gold medal for proficiency in Hydraulic Engineering to J. Rangavadhanulu of the Engineer class.

The University Rao Bahadur S. Subbaraya Chariar Gold medal was gained by K. Parthasarathi Aiyangar.

7. *Prizes.*—The special College prizes were awarded as follows:—

Engineer Class.

The Col. Love prize for proficiency in applied mechanics to A. Lakshminarayana Rao.

The University J. A. Jones' prize for Hydraulic Engineering to K. Parthasarathi Aiyangar.

Upper Subordinate Class.

The Col. Love prize for proficiency in Hydraulic Engineering to T. M. Ratnasabhupati Pillai.

The Col. Rogers prize to silver medalist.

The H. J. Thompson prize for Construction, Building, Drawing and Estimating to Sergt. R. Hartley.

Lower Subordinate Class.

The Col. Love prize to the senior student S. Ramakrishna Aiyar.

8. *University Examinations.*—Nine final year students of the Engineer Class and 4 students under practical training and 9 ex-students appeared for the B.E. Degree Examination held in April 1912 and of these six passed, one in the Mechanical branch and five in the Civil branch.

Forty candidates presented themselves for the F.E. Examination, of whom 9 were third year students, 20 second year students, 2 students under practical training and 9 ex-students. In all 17 were successful—6 third year students, 9 second year students and 2 students under practical training.

9. *Practical courses.*—Nineteen Engineer (3 Mechanical and 16 Civil) and nineteen Upper Subordinate students started their courses of practical training in June 1912.

The Senior Mechanical Engineer student was selected for the Apprentice Engineership, Public Works Department, and he was posted to the Public Works Department Workshops at Madras. The second Mechanical Engineer student joined the Indian Institute of Science at Bangalore for a post graduate course in Electrical Engineering and the third joined the Madras and Southern Mahratta Railway Workshops at Perambore.

The Civil Engineer and Upper Subordinate students were as usual posted to the Public Works divisions.

One of the Civil Engineer students who at the time was under practical training and holding a Mysore Government scholarship took up an appointment in the service of the Mysore State Railway on the acceptance by Government of service in that department as a practical course for the purpose of Rule 16 of the College Rules.

The practical courses of four Upper Subordinate students who attended the Survey camp of this year for further instruction in practical Surveying were extended by the period they spent in the camp.

All with the exception of one Engineer student attended the Body-guard Riding School for a course of instruction in equitation.

10. *Military Students*.—The number of military students on the rolls of the College at the end of the year was 24 distributed as follows :—

Practical course	6
Upper Subordinate—Senior Division Class	2
Intermediate Division	6
Probationary Subordinate Class—1st Division	5
Do. 2nd Division	5
Total	24

One of the Probationary Class 2nd Division men purchased his discharge from the army and resigned on March 31st, his studentship at the College on his obtaining an appointment in the Salt and Abkari Department, Madras.

11. *Inspections*.—At about the middle of September last the Mechanical Engineer students of the Senior and Intermediate divisions of the Engineer classes paid a visit of inspection with the Professor of Mechanical Engineering to the Cordite Factory at Aruvankadu and returned by way of Trichinopoly and Negapatam where they visited the Railway Workshops.

At about the same time the students of the senior division of the Engineer class (Civil branch) and of the senior division of the Upper and Lower Subordinate classes accompanied by the Chief Instructor in Civil Engineering and 3 Assistant Instructors made a tour extending over 11 days for the inspection of the irrigation works of the Gōdāvari and Kistna Deltas and incidentally they devoted some little time to the Gōdāvari Bridge and the Sugar Factory at Samalkota.

In the same month the students of the Intermediate divisions of the Engineer (Civil branch) and Upper Subordinate classes under the charge of the Instructor in Mechanical Engineering and an Assistant Instructor proceeded to Elamanur for inspection of the irrigation works in the Cauvery delta. From Elamanur the party toured by way of Trichinopoly to the grand anicut and thence to Needamangalam and Koriar head. In the course of their return journey the party visited the South Indian Railway workshop at Negapatam.

During the same period the Professor of Civil Engineering with two Assistant Instructors accompanied the students of the 2nd year division of the Probationary Subordinate class and the Military Students of the Upper Subordinate classes to Padugupadu for inspection of the Sangam Anicut system in the Nellore district.

The total cost of these tours in which 231 students took part was Rs. 1,697-3-0.

Visits were paid as usual to local Engineering works during the course of the session.

12. *Survey Camp*.—The camp was held from January 2nd to February 1st inclusive.

Owing to the difficulty experienced last year in finding accommodation for the students, the camp was held this year at two places simultaneously, St. Thomas' Mount and Pallāvaram. Including ten ex-students out for further practice, the total number of students in attendance was 360, as compared with a total of 316 last year and 264 the year before. They were very nearly equally divided between the two stations, and interchanged when about two-thirds the full period of the camp had passed. The Professor of Civil Engineering was in general charge of the camp, but

as he devoted his attention more particularly to the one division, the charge of the other devolved to a great extent on the Instructor in Surveying. This division of the camp attained its primary object in the matter of housing the students, and the efficiency of the instruction imparted was in no way impaired. There was some little trouble to start with over the distribution of instruments, records, etc., which need not occur again after this year's experience. It is probable that as our numbers increase it will be necessary to split up the camp into three divisions but I anticipate no difficulty in doing this provided the teaching staff is adequate. I might say that when we move to our new site it will hardly be necessary for the junior classes to go into camp for any length of time, and the camp arrangement should be relatively simpler and less expensive.

The work of the theodolite parties, as in previous years, was partly of an extended nature and partly detail surveys, and during the extended surveys the squads of the junior classes were attached to and worked under the senior squads. The extended work this year was based on a scheme for a railway about 7 miles long from Pallāvaram to St. Thomas' Mount, which was made to follow a course intentionally deviated from that of an economic line, in order to meet as many obstacles as possible, such as river crossings, etc., and to involve the tunnelling of Monkey Hill at St. Thomas' Mount. A considerable amount of detail survey work was also done by the junior classes with the chain, compass and plane table by the intermediate in contouring with the level, and by the senior in the way of general exercises and traversing with the theodolite.

A good deal of attention is now being devoted to the award of marks for actual work done in camp, but we are experiencing some difficulty in this connection owing to squads being formed of a larger number of students than is advisable, and the impossibility of representing fairly in marks the relative values of the different instruments. Some of our instruments are now getting very old and almost valueless for accurate work, and in fact are only really fit for use for preliminary instruction and practice, and as also our numbers are increasing it is my intention to submit at an early date an application for a special grant to bring our equipment in this respect up to the minimum we consider demanded for the efficient training of the students.

The work done on the whole out at camp was quite satisfactory, the members of the staff labouring strenuously and to good purpose.

13. *Workshop and laboratories*.—All classes attended regularly for workshop practice throughout the session. To my remarks of previous years in regard to accommodation and equipment I can only add that with the larger number of students the state of congestion in the workshop is making the effective supervision of the classes almost impossible, and after the rains this session we had to adopt the somewhat questionable expedient of erecting benches for some of the students on rough ground outside under the temporary roof of the smithy. We have hardly room to turn in the shop and for want of space not another machine tool can be added to our present inadequate equipment. The grant of Rs. 30,000 will go a long way towards making our Electrical Laboratory courses more efficient, but the training we provide in other directions is for want of laboratory and workshop facilities far from what it should be. If for any reason there should be further delay in taking in hand for execution the project of the new College, I shall be compelled to apply for sanction to erect temporary buildings to serve our more immediate and pressing needs.

14. *Library*.—During the year 124 new books were added to the Library bringing the total up to 5,354 volumes.

The numbers of books issued to staff and students from 1st April 1912 to 31st March 1913 were 340 and 1,095, respectively, while 156 references were made to books in the reference library.

15. *Attendance and conduct*.—The percentage of the attendance to numbers on the rolls of the College was 96.9. Detailed particulars for the several classes are given in Appendix E. The conduct of the students during the time I have been in charge has been quite satisfactory.

16. *Athletic club*.—Mr. C. L. Cartwright kindly continued to carry out the duties of Secretary and Treasurer during the session.

The College met with considerable success in the Madras Collegiate Athletic Association tournaments, securing the Professor's cup for cricket and His Excellency the Governor's cup for football, and also at the Athletic meeting in March taking the Travancore Shield in the senior competition. The Inter-collegiate cup for senior gymnastics was won by Balraj of the Engineer class and Govinda Menon of the same class came second for the Swimming cup.

In the Inter-collegiate football tournament held under the auspices of the South Indian Athletic Association, the College by defeating the Medical College in the final became the holders of the Raja Venugopaul Challenge cup, of which small replicas were presented to the members of the team.

In the College inter-class matches the Cricket cup was won by the Senior Division of the Lower Subordinate class, the Football cup by the Senior Division of the Probationary class and the Tennis Doubles by the Junior Division of the Probationary class.

The College athletic sports were held on December 19th and seem to be much appreciated by the students judging by the number of entries and the enthusiasm displayed. Br. J. G. Bell took the special prize for the best athlete and the open invitation event, the half mile flat race was won by the representative of Pachaiyappa's College.

Credit is due to Mr. W. C. Old for the whole hearted manner in which he devoted himself to the interests of the club, and the Honorary Secretary also desires to acknowledge the services of Mr. S. Subrahmanya Aiyar and the valuable assistance of the other members of the staff when called on to superintend the students' games.

17. *Employment of passed students—Engineers*.—Of the 19 Engineer students who completed their practical courses early in 1912, the senior B. S. Ramaswami Aiyar was appointed Assistant Engineer in the Provincial Service of the Public Works Department, and the remaining 18 students secured appointments as under—

STUDENTS.	
Assistant District Board Engineers	2
Temporary Upper Subordinates, Public Works Department, Madras	12
" Sub-Assistant Engineers, Mysore State Railway	2
" Supervisor, Pumping Department, Department of Industries.	1
First Grade Overseer, Public Works Department, Cochin	1
Total	18

Upper Subordinates.—Twenty-six Upper Subordinates completed their courses of practical training at about the end of July. Of these the senior P. S. Viswanatha Aiyar was appointed a permanent Upper Subordinate, third grade, and two of the Military Apprentices as Overseers, first grade, in the Public Works Department, Madras. The other two military apprentices, whose services were not required for the Public Works Department, reverted to their regiments. The remaining 21 students obtained the following appointments:—

Temporary Upper Subordinates, Public Works Department, Madras	18
Acting Overseer, Public Works Department, Travancore	1
Temporary Overseer, Public Works Department, Travancore	1
Temporary 2nd Class Overseer, Mysore State Railway	1
Total	21

Lower Subordinates.—Twenty-nine Lower Subordinates completed their courses of instruction on the 30th April 1912. Of these 27 secured employment as follows:—

Sub-Overseers, Public Works Department	2
Temporary Draftsman, Sanitary Engineer's Office, Madras	1
Temporary Draftsman, Public Works Department	7
Temporary Local Fund Sub-Overseers	3
Surveyor, Public Works Department, Cochin	1
Municipal Overseer	1
Temporary Surveyors, Public Works Department	2
Temporary Local Fund Overseer	1
Temporary Local Fund Sanitary Overseer	1
Local Fund Special Overseer	1
Local Fund Sanitary Overseer	1
Sub-Divisional Officer (Roads and Buildings), Pudukkottai State	1
Building Overseer, Madras Corporation	1
Clerk-Draftsman, Revenue Department	1
Permanent Surveyor, Corporation of Madras	1
Local Fund Surveyor	1
Special Work Subordinate, Public Works Department	1
Total	27

The remaining two students furnished no information.

18. *Financial details*.—This information is given in Appendix G. It will be noted that the receipts for 1912-13 amounted to Rs. 25,598-13-1 and the charges to Rs. 1,14,442-2-7, resulting in a net cost to Government of Rs. 88,843-5-6. The average number of students on the rolls during the year was 357 and the net cost per student Rs. 249. The above figures are subject to modification after full particulars of all adjustments such as payments on account of Europe Stores, etc., are communicated to this office. It has not been possible to completely verify the statement of accounts of the College for March 1913 with the Accountant-General's figures, but if there are any variations the necessary alterations will be reported in due course to your office.

An abstract of receipts and charges for the last five years is given in Appendix H.

In conclusion I desire to acknowledge the loyal co-operation and assistance I have received from the members of the staff, in particular the Professors of Civil and Mechanical Engineering in carrying on the work of the College.

APPENDIX A.

DISTRIBUTION of students according to classes of community on the 31st March 1913.

Class.	European and Eurasians.	Indian Christians.	Muhammadans.	Hindus.				Others.	Total.
				Brahmans.	Kshatriyas.	Vaishnavas.	Parthians.		
Engineer classes	1	7	..	49	9	..	..	..	66
Upper Subordinate classes	8	1	..	43	8	..	..	..	60
Lower Subordinate classes	2	1	..	39	8	..	..	..	50
Probationary Subordinate classes	11	11	2	126	31	..	..	..	181
Total	20	21	3	257	56	..	..	..	387

APPENDIX B.

DISTRIBUTION of students by districts on the 31st March 1913.

Districts.	Engineer Class.	Upper Subordinate Class.	Lower Subordinate Class.	Probationary Subordinate Class.	Total.
Ganjam	1	1	1	2	5
Vizagapatam	2	4	7	10	32
Odavari	3	2	4	28	35
Kistna	2	4	3	9	18
Guntur	1	1	1	1	4
Elloor	1	1	1	1	4
Anandapur	1	1	1	1	4
Kurnool	1	1	1	1	4
Nellore	2	2	2	7	11
Madras	3	1	1	10	15
Chingleput	2	1	1	2	6
Cuddapah	1	1	1	1	4
North Arcot	1	13	11	46	84
South Arcot	16	5	4	12	25
Tanjore	4	5	2	4	15
Tiruchinopoly	1	5	2	4	12
Madurai	1	2	1	3	6
Ramanad	10	2	1	5	18
Tinnevely	1	2	1	8	12
Coimbatore	1	1	1	3	5
Nilgiris	1	1	1	1	4
Salem	4	1	5	15	25
Malabar	1	1	2	1	5
South Canara	1	1	1	2	5
Puduchottai	2	1	2	5	10
Cochin	5	2	1	6	14
Travancore	10	1	1	1	13
Mysore	1	1	1	1	4
Pondicherry	1	1	1	1	4
Hyderabad	1	8	1	10	20
Military Students	1	1	1	1	4
Do. Probationers	1	1	1	1	4
Straits Settlements	1	1	1	1	4
Ceylon	1	1	1	1	4
Total	66	60	50	181	357

APPENDIX C.

DISTRIBUTION of students by wealth and occupation of parents on the 31st March 1913.

Class.	Wealth.				Occupation.								Total.
	Richer class.	Middle class.	Poorer class.	Total.	Officials.	Petty officials.	Traders.	Land-holders.	Artisans.	Mendicants.	Others.	Total.	
Engineer class, third year ..	1	20	2	23	9	2	12	12	1	1	1	23	23
Do. second year ..	19	19	12	40	12	1	7	7	1	1	1	19	19
Do. first year ..	1	21	2	24	8	1	14	14	1	1	1	24	24
Upper Subordinate class, third year ..	27	1	28	56	13	1	15	15	1	1	1	28	28
Military students ..	1	1	2	4	1	1	1	1	1	1	1	4	4
Upper Subordinate class, second year ..	23	1	24	48	13	1	3	8	1	1	1	24	24
Military students ..	1	1	6	8	1	1	1	1	1	1	1	8	8
Lower Subordinate class, third year ..	1	48	1	50	16	1	3	30	1	1	1	50	50
Probationary Subordinate class, second year ..	1	71	2	74	32	4	36	36	1	1	1	74	74
Military Probationers ..	1	1	5	7	1	1	1	1	1	1	1	7	7
Probationary Subordinate class, first year ..	7	90	1	98	46	2	3	46	1	1	1	98	98
Military Probationers ..	1	1	5	7	1	1	1	1	1	1	1	7	7
Total	11	319	9	339	149	9	10	168	1	1	2	357	357

APPENDIX D.

Results of examinations of April 1912.

Engineer class, third year, Civil branch—	
Branch I, Mathematics and Science	56.9
Branch II, Engineering	58.6
Physical Exercises	53.6
Average	58.0
Engineer class, third year, Mechanical branch—	
Branch I, Mathematics and Science	46.1
Branch II, Engineering	62.3
Physical Exercises	52.8
Average	59.4
Engineer class, second year, Civil branch—	
Branch I, Mathematics and Science	56.1
Branch II, Engineering	60.1
Physical Exercises	58.1
Average	58.7
Engineer class, second year, Mechanical branch—	
Branch I, Mathematics and Science	53.3
Branch II, Engineering	64.6
Physical Exercises	68.3
Average	62.0
Engineer class, first year—	
Branch I, Mathematics and Science	51.2
Branch II, Engineering	59.8
Physical Exercises	59.9
Average	56.4
Upper Subordinate class, third year—	
Branch I, Mathematics	65.5
Branch II, Engineering	60.3
Physical Exercises	55.9
Average	60.8
Upper Subordinate class, second year—	
Branch I, Mathematics	60.3
Branch II, Engineering	58.1
Physical Exercises	63.2
Average	58.9
Upper Subordinate class, first year—	
Branch I, Mathematics	64.5
Branch II, Engineering	58.3
Physical Exercises	61.5
Average	60.7
Lower Subordinate class, third year—	
Drawing	57.6
Applied Mechanics	46.4
Construction	62.1
Surveying	63.8
Workshops	53.5
Physical Exercises	62.6
Average	59.3

APPENDIX D—cont.

Results of examinations of April 1912—cont.

Lower Subordinate class, second year—

Drawing	56.4
Applied Mechanics	33.3
Construction	58.3
Surveying	58.6
Workshops	58.0
Physical Exercises	61.5
Average	56.7

Probationary Subordinate class, first year—

Branch I, Mathematics	71.4
Branch II, Engineering	60.6
Physical Exercises	60.3
Average	63.1

APPENDIX E.

	Average strength.	Average daily attendance
Engineer class, first Division	23.0	22.4
Do. second Division	19.0	18.7
Do. fourth Division	24.0	23.6
Upper Subordinate class, first Division	30.0	28.8
Do. class, second Division	30.4	29.4
Lower Subordinate class, first Division	50.0	48.3
Probationary Subordinate class, first Division	79.1	76.3
Do. class, second Division	102.0	99.2
	357.5	346.7
Percentage of numbers present to numbers on rolls		96.9

APPENDIX F.

CLASSIFICATION of vacancies notified during 1912-13.

	Government.	Local Board and Municipality.	Railways.	Native States.	Private employers.	Total.
	Above Rupees 200. Rupees 100 to 200. Rupees 50 to 100. Under Rupees 50.	Above Rupees 200. Rupees 100 to 200. Rupees 50 to 100. Under Rupees 50.	Above Rupees 200. Rupees 100 to 200. Rupees 50 to 100. Under Rupees 50.	Above Rupees 200. Rupees 100 to 200. Rupees 50 to 100. Under Rupees 50.	Above Rupees 200. Rupees 100 to 200. Rupees 50 to 100. Under Rupees 50.	
Engineer or Assistant	2	8	6	1	1	17
Supervisor	1	1	1	1	1	5
Overseer	5	5	1	2	1	14
Sub-Overseer	39	39	3	3	1	48
Draftsman	9	9	3	3	1	85
Surveyor	79	21	2	1	1	103
Assistant or Conservancy Superintendent.	2	2	2	2	2	9
Total	2 97 131	8 7 7 7	2	1 4 2	2 1	371

APPENDIX G.

FINANCIAL details for the year 1912-13.

Receipts.

	RS.	A.	P.
(1) Tuition and Registration fees	24,394	12	0
(2) Miscellaneous	1,204	1	1
Total	25,598	13	1

Charges.

(1) Principal	11,460	5	5
(2) Professors and Instructors including Presidency and House-rent allowances	63,006	15	3
(3) Accountant, Librarian, Clerks and Servants and grain compensation allowance	6,390	9	3
(4) Library, prizes, books, maps and medals	1,563	2	3
(5) Travelling allowance of officers, establishment and servants	2,452	2	11
(6) Europe Stores and Laboratory charges	9,056	10	3
(7) Workshop materials	4,362	12	3
(8) Survey camp and Inspection tour charges	4,877	3	0
(9) Office contingencies	3,884	6	5
(10) Scholarships and stipends	5,855	13	11
(11) Exchange compensation allowance	1,030	2	0
(12) Riding and workshop fees	250	0	0
(13) Printing maps and diagrams at the Survey Office	251	15	8
Total	1,14,442	2	7

Net cost to Government	88,843	5	6
Average number of students on rolls	357		
Net cost per student	249		
Average tuition fee paid by students per annum	68		

APPENDIX H.

COMPARATIVE financial details.

	1908.	1909.	January 1910 to March 1911 inclusive.	1911-12.	1912-13.
Receipts	RS. 19,830	RS. 17,649	RS. 24,814	RS. 24,098	RS. A. P. 25,598 13 1
Charges	1,04,359	97,182	1,47,795	1,17,162	1,14,442 2 7
Net cost to Government	84,529	79,533	1,22,981	93,064	88,843 5 6
Average number of students on rolls	253	204	255	308	357
Net cost per student	RS. 334	RS. 390	RS. 482	RS. 302	RS. 249

Ref. on Cur. No. 3235/13, dated 22nd May 1913.

Recorded.

2. Several important changes occurred in the *personnel* of the college staff during the year—the foremost of them being the retirement of M.R.Ry. B. Hanumantha Rao Avargal, I.S.O., Professor of Mathematics, after a meritorious service of 35 years in the department of which about one-half was spent in this college. The

Director wishes to take this opportunity of placing on record his high appreciation of the uniformly good work done by M.R.Ry. B. Hanumantha Rao Avargal throughout his official career. Another noteworthy feature was the transfer of the subordinate teaching staff of the college excepting the Assistant Instructors in Science and Mathematics from the Educational cadre to the upper subordinate cadre of the Public Works Department.

3. The increase in strength was for obvious reasons confined to the Probationary Subordinate class.

4. The Director is pleased to note that the work done at the survey camp was satisfactory.

5. The results of the Sessional and of the University Examinations were on the whole satisfactory, though the latter did not compare favourably with those of last year.

6. The Principal's remarks in paragraph 13 of the report in regard to workshop and laboratory accommodation are noted. The question of equipping the Electrical laboratory and strengthening the professorial staff by the appointment of a professor of Electrical Engineering are under consideration.

7. The administration of the college which continued to be satisfactory was creditable to the Principal, the Professors and the staff.

A. G. BOURNE,
Director of Public Instruction.

To the Principal, College of Engineering, with a spare copy.

" Principals of other Government Colleges.

" Inspectors of Schools.

" Superintendent, School of Arts.

" Superintendent of Industrial Education.

Copy to the Chief Engineer, Public Works Department, } with covering letter.

" Government,

Order—No. 645, Educational, dated 11th July 1913.

Recorded.

(True Extract.)

W. FRANCIS,
Ag. Secretary to Government.

To the Director of Public Instruction.

" Public Works Department.

Editors' Table.

FORT SAINT GEORGE. 9

EDUCATIONAL (1913) DEPARTMENT.

(Copy.)

LETTER to the Under Secretary of State for India.

No. 646, dated 11th July 1913.

FORWARDING a copy of the Proceedings of the Madras Government recording the report on the working of the College of Engineering, Madras, during 1912-13.

EDUCATIONAL DEPARTMENT.

LETTER—to

THE UNDER SECRETARY OF STATE FOR INDIA.

SIR,

With reference to the instructions conveyed in Lord Hartington's Despatch No. 9 (Public Works), dated 18th May 1882, I am directed to forward a copy of the Proceedings of the Madras Government recording the report on the working of the College of Engineering, Madras, during the academic year 1912-13.

I have the honour to be,

Sir

Your most obedient servant,

W. FRANCIS,
Ag. Secretary to Government.

OOTACAMUND,
11th July 1913

C. No. 184856, from the 5. 6. 9., No. 3235 dated 10. 6. 1913.

191

ORDER.

No. 645-68, dated 11. 7-13 191

$$P_r <$$

Recorded

CU
 19.6.13 CU 20/09/13 W

Replied with the
Spence copy
25.4.13

To the Director of Public Instruction
" Public Works Dept:
Editors' Table:

14 12 58

Educational Department

Letter - to 646 620/11-7-13

The Under Secretary of
State for India.

Sir,

With reference to
the instructions conveyed
in Lord Hartington's
Despatch No. 9 (Public Works),
dated 18th May 1882, I am
directed to forward a
copy of the Proceedings of
the Madras Government
recording the report on
the working of the College
of Engineering, Madras,
during the academic
year 1912-13.

I have the honour to be,

Son,

Your most obedient Servant

W. A. 1/6

Ag. Secretary to Government

Depd. with 2 p.c.
of letter & 2 p.c. of Despatch No. 645/13
11-7-13

MA
24-7-13

CA
20/7/13

ORDINARY.

PREFERENCE.

URGENT (a).

EDUCATIONAL
LEGISLATIVE DEPARTMENT.

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Govt. of India	...	Dept.	2		
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	The Collector of	...			
	The P. D. B.	...			
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(b) Each letter, memorandum, or order, or set of orders, in the file of correspondence should be headed in succession with the Roman numeral I, II, III, etc., the number being written in red ink or blue chalk above the item. The particular papers to be printed in the special issue-copies should be indicated by the Roman numeral (I, II, etc.) by which that item has been headed in the correspondence file. All matter, including marginal remarks or references, to be printed should be written in ink and matter which should not be printed should be encircled. Initials and signatures that are not quite legible should be re-written distinctly.

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has been carefully edited, (b) proof need
not be sent. Please print and supply
number of copies as indicated.

Type may be released after usual interval
at once.

Type may be released after usual interval.

.....Clerk.

.....Clerk.

.....Clerk.

.....Supdt.

.....Supdt.

.....Supdt.

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Revised proof furnished on.....	
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Final copies supplied on.....	21/7/13 - 27/7/13

Account of copies.	Complete copies.	Notes.	Issue copies.
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" " " Issue.....	148		
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