

Government of Madras

HOME DEPARTMENT (EDUCATION)

⁻⁴⁵
G.O. No 844/ 25th June 1917

Report

Recording the — on the working of the College of Engineering, Madras, during 1916-17.

INDEXED

ORIGINAL.

Government of Madras

HOME DEPARTMENT (EDUCATION)

G.O. No 844, 25th June 1917

Report

Recording the — on the working of the College of Engineering, Madras, during 1916-17.

Read—the following paper :—

Letter—from the Hon'ble Mr. J. H. STONE, M.A., F.R.H.S., C.I.E., Director of Public Instruction.

To—the Secretary to Government, Home (Education) Department.

Dated—Madras, the 15th June 1917.

No.—R.C. 3067.

I have the honour to submit herewith, for the information of Government, a copy of my Proceedings R.C. No. 3067, dated 1st June 1917, reviewing the report on the working of the College of Engineering, Madras, during the year 1916-17.

ENCLOSURE.

Proceedings of the Director of Public Instruction, R.C. No. 3067, dated 1st June 1917.

Read—the following paper :—

Letter—from W. H. JAMES, Esq., M.Sc., Principal, College of Engineering, Madras.

To—the Director of Public Instruction.

Dated—the 16th April 1917.

No.—C. 27/17.

I have the honour to submit herewith the administration report of the College of Engineering, Madras, for the academic year 1916-17.

2. *Staff*.—Mr. H. W. Barker was appointed to the Indian Educational Service and Professor of Civil Engineering at this college on the 22nd July 1916 in succession to M.R.Ry. P. V. Manikkam Naicker Avargal, Executive Engineer, Public Works Department, who was acting in the appointment.

The pay of Mr. J. Webster, Instructor in Mechanical Engineering, was increased by the Secretary of State from Rs. 450 to Rs. 450-²/₃—700, with effect from 1st September 1916. He was granted furlough for nine months from 8th July 1916, and M.R.Ry. S. Subrahmanya Ayyar, Supervisor, first grade, Public Works Department and an Assistant Instructor of this college, held the acting appointment from that date.

M.R.Ry. R. V. Narayana Ayyar Avargal, Sub-Engineer, first grade, Public Works Department and Instructor in Civil Engineering, reverted to the Public Works Department and Conductor P. H. England, Sub-Engineer, third grade, succeeded him on the 23rd December 1916.

Mr. A. H. Gilks, acting Workshop Instructor, was confirmed in the appointment with effect from 5th December 1916.

The following are the changes in the personnel of the Assistant Instructors :—

M.R.Ry. T. A. Venkatachella Ayyar, Supervisor, first grade, Public Works Department (temporary), reverted to the Public Works Department on the 20th December 1916 and M.R.Ry. D. N. Somayajulu, temporary Overseer, first grade, who was posted to the college on 2nd October 1916 in connection with the Revenue Officers' class, was retained here permanently in his place when the work of that class was over on the 19th December 1916.

M.R.Ry. P. Natesa Ayyar, Supervisor, first grade, Public Works Department (temporary), on his obtaining promotion, was transferred back to the Public Works Department and M.R.Ry. K. Somaskanda Ayyar, Overseer, first grade (temporary), joined in his place on 1st January 1917.

M.R.Ry. S. Nataraja Ayyar, Overseer, first grade, was appointed an Assistant Instructor in the leave arrangement of Mr. J. Webster and reported here on the 17th July 1916.

M.K.Ry. K. R. Krishnaswami Ayyar, Supervisor, first grade (temporary), Public Works Department, reverted in the normal course to the Public Works Department on 19th April 1916 and M.R.Ry. R. N. Sarma, Overseer, second grade, was posted here in his place and joined for duty on the 10th July 1916.

M.R.Ry. K. Subrahmanya Ayyar, Supervisor, first grade (temporary), Public Works Department and Assistant Instructor of this college, was on privilege leave on half pay on account of illness from the 3rd to the 21st January 1917.

Mr. T. J. Rozario, instrument repairer, died on the 8th April 1916 and Mr. A. E. Holloway was appointed in his place from the 8th September 1916.

C. Narayanan Nayar, gymnastic instructor, died on 21st July 1916 after long illness and he was succeeded by S. N. Subrahmanya Ayyar, gymnastic instructor, Government Training School, Triplicane, who joined for duty on the 29th July 1916.

M.R.Ry. A. Sivasankara Mudaliyar, head clerk, retired from service on the 15th July 1916 and M.R.Ry. K. V. Kunhiraman, librarian and storekeeper, was appointed head clerk, sub. *pro tem.*, in his place from the 17th July 1916, and M.R.Ry. G. C. Duraiswami Ayyangar, clerk, office of the Director of Public Instruction, succeeded the latter as sub. *pro tem.* librarian and storekeeper on the 3rd November 1916.

H. Y. Harihara Ayyar, acting first assistant clerk, acted as librarian and storekeeper from 1st September to 2nd November 1916, and R. Venkatarama Sastri acted as first assistant clerk during the above period.

T. V. Kuppuswami Mudali, acting workshop clerk, was confirmed in his appointment with retrospective effect from 1st January 1915.

T. Vedanta Acharya, typist, having been invalided for further service, retired on 16th September 1916 and P. Subrahmanya Ayyar, acting typist, was confirmed in the appointment with effect from 1st October 1916.

The sanction for four temporary assistant instructors for the college was renewed for this academic year.

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

Class.	Practical course.	In college.				
		Fourth year.	Third year.	Second year.	First year.	Total.
Engineer class	20	24	25	26	32 *	127
Upper Subordinate class	39	..	..	43	47	129
Lower Subordinate class	..	..	..	66	66	66
Probationary Subordinate class	..	..	..	122	126	248
Total ..	59	24	25	151	271	670

* Including three electrical engineering scholars.

Excluding the students on practical course, the total number actually in the college on the 31st March 1917 was 511.

The corresponding totals for the last five years were—

Year.	No.
1915-16	491
1914-15	429
1913-14	380
1912-13	357
1911-12	305

The increase in the total for the year under report is due to the larger numbers in some of the classes.

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 67.6 per cent were Brahmans, 20.9 per cent non-Brahman Caste Hindus, 7.6 per cent Indian Christians, 2.6 per cent Europeans and Anglo-Indians and 1.3 per cent Muhammadans.

The figures above show some slight diminution this year in the percentages of Brahmans and Muhammadans as compared with those of last year, while those of non-Brahman Hindus, Indian Christians and Europeans and Anglo-Indians have risen.

As regards districts, Tanjore was represented by 15.1 per cent, Kistna 8.8 per cent, Godavari 8.1 per cent, Malabar 7.1 per cent, Tinnevely 6.6 per cent, Madras 6.4 per cent, Trichinopoly 5.6 per cent, Travancore 4.6 per cent, Chingleput 4.2 per cent, North Arcot 3.7 per cent, Madura 2.7 per cent, South Kanara 2.5 per cent, Guntur and South Arcot 2.3 per cent each, Salem and Coimbatore 2.1 per cent each, Mysore 1.9 per cent, Cochin 1.7 per cent, Ganjam and Chittoor 1.5 per cent each, and Vizagapatam 1.3 per cent of the total number.

4. Admission of students.—In all, 168 candidates applied for admission to the Engineer class and 411 for the Probationary Subordinate class, and of these 30 were admitted to the former class—one being a French subject from Pondicherry—and 126 to the latter class including one military student.

Eleven applications were received for the three electrical engineering scholarships instituted about the beginning of the session and after the ordinary admissions had been made, of which four were from ineligible candidates. The intention to award the scholarships has been notified in good time this year and it is hoped we shall have applications from candidates with higher qualifications than was the case last year.

5. Examinations—Engineer class, Senior division.—The Civil Engineer class contained 17 students. All passed the final examination, two with honours, but two have still to qualify in practical surveying. The average percentage of marks obtained was 59.5.

All the four students constituting the Mechanical Engineer class passed the final examination, gaining 64.5 per cent of the total marks.

Second division (third year)—Civil.—There were 20 students in this division. All appeared for the sessional examination and qualified for promotion except one who remained in the same division.

Second division (third year)—Mechanical.—Five students constituted this class and all passed the sessional examination.

Third division (second year).—Of the 28 students forming this class two failed in the examinations, and they were permitted to join the Junior division of the Upper Subordinate class. Of the 26 students who qualified for promotion, 14 joined the Civil and 12 the Mechanical branch.

Fourth division (first year).—All the 27 students of this class went on in accordance with the rules to the second year of the course.

Upper Subordinate class (Senior division).—There were 39 students in this class. All passed the final examination, five with honours. Of the 15 who failed in the first instance to qualify in practical surveying, 12 on re-examination reached the standard demanded and the remaining 3 after attendance at an additional survey camp. The average percentage of marks obtained was 58.3.

Upper Subordinate class (Junior division).—This class was 45 strong. All qualified for promotion with the exception of two students who continued in the class this session.

Lower Subordinate class.—The 62 students forming this class appeared for and passed the final examination, five with honours, but ten failed to reach the requisite standard in practical surveying. They were re-examined this session after some further practice in field work and all of them passed. Two ex-students also qualified after attendance at this year's survey camp. The average marks gained were 59.7 per cent of the total.

Probationary Subordinate class (second year).—The strength of this class was 126 and of these 15 failed to qualify for proceeding to higher courses of study. Of those who passed, the 41 at the head of the first were selected for the Upper Subordinate class and the remainder formed the Lower Subordinate class. Of the failures seven rejoined the class and eight did not return to college.

Probationary Subordinate class (First-year division).—This division contained 118 students and in accordance with the rules all passed on to the second year of study.

Particulars of the marks obtained by classes in the several branches of the examinations are given in appendix D.

6. *Honours and distinctions.*—The college medals for the session were awarded to the undermentioned final year students:—

Gold medal—M. K. Ranganathan, Engineer class.

Silver medal—S. V. Srinivasa Rao, Upper Subordinate class.

Bronze medal—T. Narayanaswami, Lower Subordinate class.

The Harris gold medal for proficiency in electrical engineering was awarded to M. K. Ranganathan and the DeWinton gold medal for proficiency in hydraulic engineering to K. S. Sitarana Ayyar of the Engineer class.

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

Engineer class.—The Colonel Love prize for proficiency in applied mechanics to P. Narasimhan.

Upper Subordinate class.—The Colonel Roger's prize went to the Silver Medalist S. V. Srinivasa Rao who also gained the H. J. Thompson prize for construction, building, drawing and estimating and the prizes for engineering and drawing.

The Colonel Love prize for hydraulic engineering was gained by S. Gopalan and the Madhava Rao prize for workshop practice by D. Mahalinga Ayyar. The Madhava Rao prize to a Mahratta Brahman for workshop practice was not awarded for want of a qualified candidate.

Lower Subordinate class.—The Colonel Love prize was awarded to the senior student T. Narayanaswami.

8. *University examinations.*—Eleven Engineer students in the final-year division and one ex-engineer student appeared for the B.E. Degree examination and of these ten passed, eight in the civil branch and two in the mechanical branch.

Forty-one college students presented themselves for the F.E. examination, of whom 26 were second-year students, 8 third-year students and 11 fourth-year students. In all 27 were successful—19 second-year students, 5 third-year students and 3 fourth-year students.

The University Rao Bahadur Subbaraya Asariar gold medal was awarded to M. K. Ranganathan and J. A. Jone's prize for hydraulic engineering to K. P. Nanu Menon.

9. *Practical courses.*—Twenty-one Engineer (17 civil and 4 mechanical) and thirty-nine Upper Subordinate students were qualified to proceed with courses of practical training in June 1916.

Fourteen of the Civil Engineer students and all the Upper Subordinate students were posted as usual to Public Works divisions. The other three students of the Civil Engineer class took up appointments in the service of Government of Mysore directly on the termination of the theoretical course.

Of the four mechanical students, the senior was selected apprentice engineer and posted to the Public Works Workshops, Madras. The other two joined the Madras and Southern Mahratta Railway Workshops, Perambur. The fourth, M. Karuvén, had been at the Public Works Workshops, Madras, only a short time when he was awarded a Government of India State scholarship for the study of electrical engineering. He proceeded to Europe without delay and is now undergoing practical training at work in the neighbourhood of Edinburgh.

Owing to the absence of His Excellency's Body Guard from Madras, Government decided to exempt the students on practical training from undergoing the usual equitation course, but their eligibility for appointments to the permanent establishment in the Public Works Department will be contingent on their satisfying the Public Works Department authorities as to their ability to ride.

10. *Military students.*—The one military man who applied was admitted to the Probationary class. The number of military students on the rolls and distribution among classes was as follows:—

Practical course	...	...	...	...	...	Nil.
Upper Subordinate class, second year	...	...	...	...	...	3
Do. first year	...	...	...	...	...	4
Probationary class, second year	...	...	...	...	...	1
Do. first year	...	...	...	...	...	1
Total	...	...	...	...	...	9

With the departure of the three students in the senior Upper Subordinate class and the practical certainty that we shall have no fresh military students, we shall be hard pressed for drill instructors next session.

11. *Revenue Officers' class.*—One batch of seven officers underwent the usual course of training from the 6th October to the 18th December 1916. The work they did was quite satisfactory, and the officers all appeared to make efforts to utilize their time to the best advantage.

12. *Survey camp.*—The camp for field work practice was held as usual during January and this year at Saidapet, St. Thomas' Mount and Pallavaram. The first-year Engineer (fourth division) and Probationary Subordinate classes (second division) were stationed at Saidapet from January 3rd to 23rd inclusive. They had good opportunity, of which they took full advantage, to practise surveying with the chain and prismatic compass under varying conditions in the town of Saidapet and its environs. The first, second and third divisions of the Engineer class, the Lower Subordinate class and about one-third of the first division of the Probationary Subordinate class were at Pallavaram from the 3rd to 18th January and at St. Thomas' Mount from 19th to 27th January inclusive. The senior Engineer class stayed on in camp until the 31st January. The other classes, viz, the first and second divisions of the Upper Subordinate class and the remainder of the Probationary Subordinate class, started at St. Thomas' Mount and changed over with the other classes to Pallavaram.

For the greater part of the first fortnight of the camp, all the students at Pallavaram and St. Thomas' Mount took part in a survey of a project for a water-supply scheme for St. Thomas' Mount and Guindy. For this purpose it was assumed that suitable water was procurable from a deep well and borehole near the Adyar river at a point north-west of the Cowl Bazaar, Pallavaram. The survey was conducted with a view to the examination of alternative sites for the pumping station, service reservoir, etc., and alternative lines for the pumping and gravitation mains. As in previous years, the senior squads had working under their direction level parties of third year and plane table parties of second year students.

The senior Engineer class had practice also in making closed traverse surveys, setting out railway curves, stadia and trigonometrical surveying. The work of the senior division of the Upper Subordinate class was somewhat similar but of a less advanced character. The Lower Subordinate devoted about half their time to levelling and the other half to simple theodolite work.

As expressed by the Professor of Civil Engineering in his detailed report on the work done at the camp "the primary object kept in view throughout the camp was the training of students in the classes of work they will be called on to undertake in Government service in the Public Works Department and similar employment elsewhere, but, so far as it could be done without detriment to this, more advanced work was also undertaken for its educative value."

The camp was quite successful, the students on the whole showing much energy at their work and their conduct was very satisfactory. We are much indebted to the military authorities for the permission they granted for working within cantonment limits and for allowing us the use of some of their buildings at St. Thomas' Mount.

There were in attendance 495 college students and also 5 ex-students who were given this further opportunity of qualifying for their diplomas, and the total cost to Government was Rs. 4,003-7-6.

13. *Workshops.*—The students of all classes received training in workshop practice as usual. The limited number of machines and accommodation available affect adversely this instructional work and but little improvement is possible now, and we can only look forward to the better facilities we shall before very long have at Guindy.

14. *Engineering laboratories.*—The customary routine and class demonstration work bearing on the strength of materials has been carried out and during the year two college professional papers have been published: No. 7, A note on the deflection of some steel rails, and No. 8—The strength and elastic properties of some South Indian and other timbers. We have just received on indent from the makers in England a shearing attachment for the 100-ton testing machine, which will be of much value for class work.

The Professor of Mechanical Engineering has devoted some time this session to making our now rather old-fashioned Crossley gas engine better adapted and to providing the accessories necessary for the carrying out of efficiency trials, and with the erection of a boiler to supply steam to the small marine type engine made in the workshop some time back, we are now in a position to do a little more than formerly in the branch of our work relating to heat engines.

The students of the Mechanical Engineer classes have put in a good deal of their time on work in the Electrical Engineering laboratory, in connection with which the Professor of Electrical Engineering in his report on the working of his department makes the following remarks:—"The laboratories are still deficient in equipment in the matter of instruments and other auxiliary apparatus, resistances, tachometers, switches, etc., but it is hoped that this may be rectified during the coming session by goods already ordered and others about to be ordered. The laboratory is short of major equipment machines, switchboards, etc., for the proper accommodation and training of the number of students we shall have for the next first year's course. Enquiries have been made of firms in England and it has been found that owing to the war this equipment cannot be supplied at present."

A good deal of work has been done in all three departments—Civil, Mechanical and Electrical—on schemes for the laboratory and workshop equipment at Guindy, but under existing conditions it has not been possible to do anything very definite with firms at home in regard to the plant we require, so in all likelihood we shall enter on our occupancy of the new buildings at Guindy with little more in the way of actual equipment than we have in our buildings here.

15. *Visit to works.*—The senior divisions of the Engineer and the Upper Subordinate classes together with mechanical students of the E. (ii) class under the charge of the Professor of Mechanical Engineering accompanied by the Instructor in Civil Engineering and an Assistant Instructor proceeded to Cocanada about the middle of September last for an inspection of works in the Gōdāvari and Kistna deltas. The party visited the Cocanada river jetty and groynes, the Jagannapur bridge, the tidal lock and waterworks, proceeding afterwards to Samalkot where the double lock, weir, undertunnel, the agricultural farm, the rice mill and the sugar factory were also inspected. Special mention is made of the kindness of Mr. Camp in affording facilities for visiting the sugar factory. The party then

went on to Dowlaishwaram and inspected the Eastern, Central and Western Delta head works, the workshop and the railway bridge, and thence to Bezvada for the inspection of the railway bridge over the Kistna, the Western and Eastern delta headworks and Bezvada waterworks. The party after that proceeded on to Divi to see the pumping station, and arrived back in Madras on October 1st.

At about the same time, two parties of students were taken to the south for a tour round some of the works in the Cauvery delta, one party consisting of 14 students of E. ii (Civil), 44 students of U.S. ii and 8 military students under the charge of the Professor of Civil Engineering and two instructors and the other consisting of 67 students of the lower subordinate class accompanied by two instructors. The first party began with Trichinopoly where they visited the Railway junction buildings and workshops, the Kodaimurti bridge, the waterworks pumping station, stone groynes and the rock fort reservoir. From Trichinopoly they went to Pattaivoithalai and inspected among other works the Uyyakondan channel, the headsluice and the surplus weir. The party afterwards proceeded to Kulittalai and inspected the Panjambatti reservoir and earthdam which at the time was in an interesting stage of construction. Following that, the Upper and Grand Anicuts were inspected and also the Srirangam Nattu Vaikal and the Cauvery and Vennar regulators. They finished up the tour at Tanjore where they visited the waterworks pumping station and service reservoirs and got back to Madras on October 1st.

The second party started with Tanjore and made the same tour in the opposite direction finishing up about the same time at Trichinopoly.

Another party consisting of the second year students of the Engineer and probationary subordinate classes, accompanied by six instructors proceeded to Nellore on a tour of the works in that district. For convenience this party also was divided into two groups and they started the inspection from different places. The works visited by these students included the Nellore anicut, headworks and railway bridge across the Pennar river, the Sarvapalli canal, the Nellore tank channels, the Nellore waterworks and Nellore tank. The Jaffar Sahib canal, the Sangam anicut and the headworks on the right of the Pennar river, works along Kanigiri main canal, Kanigiri reservoir, Kanigiri tank bund and the southern and central channels and headsluices and surplus weirs were also among the works inspected. The total number of students who took part in the tours was 356 and the expenditure Rs. 1,379-4-4.

Local works.—During the session, all classes visited the more important local engineering works including the power station of the Madras Electric Supply Corporation, the Madras Corporation drainage works and the waterworks and filterbeds at Kilpauk, the lime and cement works of the South Indian Industrials, the Public Works Workshops, Koyapuram, the Madras Harbour works, the Government brickfields, the Madras tile-works, Amunjikarai, the Indian Siegwart Beam Company, Royapettah, the South Indian Royal Ice Factory, Egmore, the Carnatic Mills, the Harbour Workshops and Hydraulic installation, the Madras and Southern Mahratta Railway Workshops at Perambur and the Redhills tank and headworks.

The students were also shown buildings under construction such as the Chief Presidency Magistrate's Court and residence, Egmore, the Madras and Southern Mahratta Railway Company's new offices and officers' quarters, the new Engineering College, Guindy, Pachaiyappa's College Hostel, Chetput, the Monegar Choultry Hospital and the Police Sub-Inspectors' quarters and huts for constables and head constables at Kilpauk and Mylapore.

16. *Electric lighting.*—The lighting installation sanctioned some time back has just been completed and next session it will be arranged to have the drawing offices open during the evenings so that those students who desire may have the opportunity of working under conditions more favourable than is possible for many of them in their lodgings. The member of the staff it is proposed to have in attendance will also be able to afford them some help in their work.

17. *First aid lectures.*—The Honorary Secretary of the St. John's Ambulance Association again this year very kindly made arrangements for courses to the

year students of the Engineer and upper subordinate classes, and we are indebted to Drs. G. Narayanaswami Mudaliyar and T. V. Subba Rao who gave the lectures and demonstrations. The students have since been examined, but the results are not yet announced.

18. *College of Engineering hostel.*—The landlord of the house in Pycroft's road finally refused to carry out the alterations agreed on and which were necessary to make the premises suited for a hostel and we accordingly terminated our tenancy at the end of last session and moved into a more convenient house in Akbar Sahib street, Triplicane, in fairly close proximity to the college. The rent of this building is Rs. 110 per mensem.

M.R.Ry. R. Tirumurthi Rao having resigned the deputy wardenship of the hostel, the post was filled by M.R.Ry. K. Venkatarama Ayyar, one of our assistant instructors with effect from 2nd November 1916.

The hostel accommodates 40 residential members and there are in addition 15 members who only board. The health of the hostel has been very good, not a member having suffered from any protracted illness. The boarding charges (somewhat lower than in the previous year) varied from Rs. 10½ to Rs. 11½ per mensem which taking into account the quality of meals supplied, compares favourably with the cost of living in ordinary hotels in the neighbourhood of Triplicane.

During the survey camp period, the hostel staff was taken out to Saidapet where two houses were rented and a temporary hostel organized for the students of the junior classes doing field work in that neighbourhood. The total number in residence was 62, and the reports went to show that the arrangements made were quite satisfactory, and that the cost to the hostel students was considerably less than to non-hostel students who formed themselves into lodges in the town of Saidapet.

19. *Library.*—During the year, 184 new books were added to the library.

The number of books issued to the staff and students from 1st April 1916 to 31st March 1917 were 900 and 2,023 respectively, while 150 references were made to books in the reference library.

The books in the library were checked when the new librarian took over charge and again at the end of the session. A separate communication has been addressed you on this subject.

20. *Attendance and conduct.*—The percentage of attendance to numbers on the rolls of the college was 96·3. Detailed particulars for the several classes are given in appendix E. The conduct of the students during the year was very satisfactory.

21. *Athletic club.*—The duties of Secretary this session were kindly taken over by Mr. H. W. Barker, who in his report on the working of the club makes the following remarks :—

“Efforts are made to get as many students as possible to take an active part in the college games and not to become as many students in Madras appear apt to do, mere supporters of the college team from the touch lines. With this object in view the interclass competitions for cricket, football, hockey and tennis have been continued. The majority of the students take part at times in the games and the ground is generally in use in the evenings by some 50 to 70 students.

“For the purpose of the interclass league competitions, the college is divided into nine divisions. The winners for 1916–17 are :—

Cricket —E.B. (1st and 2nd year Engineering students).

Football U.S. ii (3rd year subordinate students).

Hockey do. (do.).

Tennis doubles E. iii (2nd year Engineering students).

“The college athletic sports were held in December and created enthusiasm. The college football team was again very successful, winning both the Madras collegiate competitions (one on the league and one on the cup-tie principle) and also the cup for the tournament promoted by the Young Men's Social Union.

“The college did not do especially well in the Madras collegiate athletic sports, although our representatives were placed first and second in the swimming race, first in the mile, second in European gymnastics, and second in the team race.

“Members of the staff take in turn to superintend the games at the recreation ground, but the bulk of the work has fallen on Mr. W. C. Old and Mr. S. Subrahmanya Ayyar, both of whom have worked with enthusiasm.”

22. *College of Engineering association.*—The association kept alive its activities during the year. Five ordinary meetings were held which were well attended and at which papers of technical interest were read—two by members of the staff and three by students. A social gathering and exhibition was arranged towards the end of the session at which some good work done by the students was shown in competition prizes in the form of silver medals being awarded by the association.

23. *Employment of passed students.*—The interval consequent on the extension of the course from three to four years falling last year, no Engineer students were available for employment.

Upper subordinates.—Thirty-one of the upper subordinates satisfactorily completed their courses of practical training at about the end of July but the practical courses of two students were extended by two and three months respectively for unsatisfactory progress.

The senior student R. Lingam was appointed a permanent overseer, third grade in the Public Works Department.

The thirty-two other students obtained employment as follows :—

	Number.
Temporary upper subordinates, Public Works Department, Madras	31
Overseer, first grade, District Board, Vizagapatam	1
Total	32

Lower subordinates.—Fifty-two lower subordinates completed their courses of instruction at the end of April 1915. Of these 33 reported as having obtained employment as under :—

	Number.
Acting Local Fund overseers	2
Temporary Local Fund sub-overseers	3
Acting sub-overseers, Public Works Department, Madras	12
Temporary draftsmen do.	10
Conservancy Inspector do.	1
Maistry, Public Works Department, Mopad project	1
Surveyor, Nizam's Government, Hyderabad	1
Estate Overseer, Pithapuram	1
Assistant draftsmen, Malasia Advisory Board, Federated Malay States, Kuala Lumpur	2
Total	33

Particulars of the vacancies notified during the year are given in appendix F.

24. *Casualties.*—I regret I have to record the death of one student of the first year division of the upper subordinate class and two students of the second year division of the probationary subordinate class and also of two students on their practical courses, one, an Engineer student and the other, an upper subordinate student.

25. *Financial details.*—This information is given in appendix G. It will be noted that the receipts for 1916–17 amounts to Rs. 37,576-3-8 and the charges to Rs. 1,47,737-14-6 resulting in a net cost to Government of Rs. 1,10,161-11-3. The average number of students on the rolls during the year was 512 and the net cost per student Rs. 215. 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.

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

26. In conclusion, I desire to acknowledge the loyal co-operation of the professors, instructors and assistant instructors in carrying on the work of the college.

APPENDIX A

Class.	Europeans and Eurasians.	Indian Christians.	Muhammadians.	Hindus.			Others.	Total.
				Brahmans.	Non-Brahmans.	Pashamas.		
Engineer classes ..	2	9	1	83	12	..	..	107
Upper subordinate classes ..	7	6	1	66	20	..	..	90
Lower subordinate class ..	1	7	1	43	14	..	..	66
Probationary subordinate classes.	3	17	4	163	61	..	..	248
Total ..	13	39	7	345	107	..	..	511

APPENDIX B

Districts.	Engineer class.	Upper subordinate class.	Lower subordinate class.	Probationary subordinate class.	Total.
Ganjam ..	1	2	..	5	8
Visagapatam ..	2	..	7	3	7
Godavari ..	7	4	7	24	42
Kidwa ..	1	10	7	27	45
Guntur ..	2	1	4	10	17
Guntur ..	..	..	1	2	3
Bellary ..	..	..	..	..	..
Anantapur ..	..	..	..	..	..
Kurnool ..	..	..	1	4	5
Nellore ..	7	4	10	12	33
Madras ..	3	4	5	10	22
Chingelput ..	1	5	3	5	14
Cuddapah ..	1	..	..	10	19
North Arcot ..	1	..	1	6	8
Chittoor ..	..	..	10	12	22
South Arcot ..	16	18	7	37	78
Tanjore ..	5	5	2	17	29
Tiruchinopoly ..	3	2	1	8	14
Madura ..	11	6	4	13	34
Ramanad ..	4	2	1	4	11
Tinnevely ..	3	8	1	29	37
Cumbhore ..	7	1	1	4	13
Salen ..	2	..	..	..	2
Malabar ..	7	1	..	..	8
South Kanara ..	2	..	..	..	2
Pudukottai ..	9	1	4	6	24
Cochin ..	8	1	..	1	10
Travancore ..	..	..	..	..	..
Mysore ..	..	..	..	..	..
Straits Settlements ..	..	..	..	..	..
Bombay ..	1	..	1	..	2
Hyderabad ..	..	7	..	..	7
Military students ..	..	..	..	2	2
Do. probationers ..	1	..	..	1	2
Ceylon ..	..	..	..	..	..
Total ..	107	90	66	248	511

APPENDIX C

Class.	Wealth.			Occupation.								Total.
	Higher class.	Middle class.	Poorer class.	Total.	Officials.	Petty officials.	Traders.	Landholders.	Artisans.	Medicinals.	Others.	
Engineer class, fourth year ..	24	..	24	18	..	8	2	..	..	1	24	24
Do. third year ..	24	..	26	19	..	2	5	..	..	..	26	26
Do. second year ..	24	..	32	24	..	..	8	..	..	..	32	32
Do. first year ..	28	..	40	16	..	2	13	..	2	..	40	40
Upper subordinate class, second year.	33	7	..	..	..	..	..	..	..	..	..	..
Military students ..	..	3	..	..	..	..	..	..	..	..	3	3
Upper subordinate class, first year.	42	..	43	23	1	5	14	..	..	..	43	43
Military students ..	..	4	..	..	..	..	..	..	..	..	4	4
Lower subordinate class ..	64	2	66	32	..	12	22	..	..	..	66	66
Probationary subordinate class, second year.	110	11	121	61	7	15	43	..	1	4	121	121
Military probationer ..	..	1	..	..	..	..	..	..	..	..	1	1
Probationary subordinate class, first year.	121	2	125	60	8	7	64	..	..	1	125	125
Military probationer ..	..	1	..	..	..	..	..	..	..	..	1	1
Total ..	10	470	22	511	259	18	48	168	..	3	6	511

APPENDIX D

RESULTS of Examination of March 1916.

Engineer class, fourth year, Civil Branch—

Branch I, Mathematics and Science ..	62.6
Branch II, Engineering ..	58.8
Physical exercises ..	56.0
Average ..	59.5

Engineer class, fourth year, Mechanical Branch—

Branch I, Mathematics and Science ..	64.0
Branch II, Engineering ..	64.7
Physical exercises ..	62.2
Average ..	64.5

Engineer class, third year, Civil Branch—

Branch I, Mathematics and Science ..	57.4
Branch II, Engineering ..	59.7
Physical exercises ..	54.5
Average ..	58.7

Engineer class, third year, Mechanical Branch—

Branch I, Mathematics and Science ..	51.7
Branch II, Engineering ..	61.5
Physical exercises ..	46.6
Average ..	58.0

Engineer class, Second year—

Branch I, Mathematics and Science ..	54.0
Branch II, Engineering ..	59.1
Physical exercises ..	53.7
Average ..	57.2

Engineer class, first year—

Branch I, Mathematics and Science ..	53.2
Branch II, Engineering ..	67.6
Physical exercises ..	60.7
Average ..	61.6

Upper subordinate class, second year—

Branch I, Mathematics ..	51.5
Branch II, Engineering ..	59.4
Physical exercises ..	60.9
Average ..	58.3

Upper subordinate class, first year—

Branch I, Mathematics ..	64.9
Branch II, Engineering ..	65.9
Physical exercises ..	55.1
Average ..	61.7

Lower subordinate class—

Branch I, Mathematics ..	60.8
Branch II, Engineering ..	50.1
Physical exercises ..	..
Average ..	59.7

Results of Examination of March 1916—cont.

Probationary subordinate class, second year—

Branch I, Mathematics ...	63.4
Branch II, Engineering ...	59.7
Physical exercises ...	57.0

Average ... 60.1

Probationary subordinate class, first year—

Branch I, Mathematics ...	65.4
Branch II, Engineering ...	67.1
Physical exercises ...	63.8

Average ... 66.4

APPENDIX E

	Average number on rolls.	Average daily attendance.
Engineer class, first division ...	23.7	22.3
Do. second do. ...	25.7	24.9
Do. third do. ...	26.2	24.4
Do. fourth do. ...	32.7	31.1
Upper subordinate class, first division ...	42.6	41.4
Do. second do. ...	43.0	45.9
Lower subordinate class ...	66.0	63.9
Probationary subordinate class, first division ...	122.8	118.0
Do. second do. ...	125.2	122.0
	512.9	493.9
Percentage of numbers present to number on rolls ...	96.3	

APPENDIX F

CLASSIFICATION of vacancies notified during the year 1916-17.

	Government.				Local boards and municipalities.			Railways.			Native States.			Private employees.			Total.
	Above Rs. 200.	Ra. 100 to 200.	Ra. 50 to 100.	Under Rs. 50.	Above Rs. 200.	Ra. 100 to 200.	Under Rs. 50.	Above Rs. 200.	Ra. 100 to 200.	Under Rs. 50.	Above Rs. 200.	Ra. 100 to 200.	Under Rs. 50.	Above Rs. 200.	Ra. 100 to 200.	Under Rs. 50.	
Engineer or Assistant Engineer ..	4	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	6
Supervisor ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Overseer ..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Sub-overseer ..	..	..	2	24	..	4	1	..	..	..	..	..	..	..	..	..	17
Draftsman ..	..	..	..	11	..	..	2	..	..	..	..	..	..	..	..	..	6
Surveyor ..	..	..	4	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Antient or Conservancy Superintendent or Estimator.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	4	2	12	37	1	9	3	..	..	..	..	1	..	..	..	..	69

APPENDIX G

FINANCIAL details for the year 1916-17.

Receipts.

	RS.	A.	P.
(1) Tuition and registration fees ...	36,922	10	0
(2) Miscellaneous ...	653	9	3
Total ...	37,576	3	3

Charges.

(1) Principal ...	15,000	0	0
(2) Professors and Instructors including Presidency and house-rent allowances.	83,368	11	4
(3) Allowance to Deputy Warden, College of Engineering Hostel, Madras.	360	0	0
(4) Accountant, Librarian, clerks and servant and grain compensation allowance.	5,933	6	1
(5) Library prizes, books, maps and medals ...	1,925	11	11
(6) Travelling allowance of officers and establishment ...	1,904	3	11
(7) Europe stores and laboratory charges ...	8,057	13	4
(8) Workshop materials ...	8,669	7	1
(9) Survey camp and inspection tour charges ...	5,865	11	10
(10) Printing maps and diagrams at the Survey Office ...	322	9	11
(11) Petty construction and repairs ...	198	8	10
(12) Riding and workshop fees ...	250	0	0
(13) Exchange Compensation allowance ...	2,575	1	0
(14) Office contingencies and games ...	6,985	13	5
(15) Scholarships and stipends ...	6,320	11	10
Total...	1,47,737	14	6

Net cost to Government ... 1,10,161 11 3

Average number of students on rolls ... NO. 512

Net cost per student ... RS. 215

Average tuition fee paid by students per annum ... RS. 68

APPENDIX H

COMPARATIVE financial details.

	1912-13.	1913-14.	1914-15.	1915-16.	1916-17.
Receipts ..	RS. 25,598	RS. 27,041	RS. 30,269	RS. 36,142	RS. 37,576
Charges ..	1,14,402	1,27,230	1,56,355	1,33,172	1,47,738
Net cost to Government ..	88,804	1,00,189	1,26,086	97,030	1,10,162
	NO.	NO.	NO.	NO.	NO.
Average number of students on rolls ..	357	383	436	493	512
	RS.	RS.	RS.	RS.	RS.
Net cost per student ..	249	261	296	197	215

R.C. No. 3067/17, dated 1st June 1917

Recorded.

2. The report which is, as usual, full and interesting contains unmistakable evidence of the progress shown by the college during the year upon which the Principal, the Professors and the staff are congratulated.

(True Extract)

J. H. STONE,
Director of Public Instruction.

To the Principal, College of Engineering, with spare copies.

,, Principals of other Government Colleges.

,, Inspectors of Schools.

,, Superintendent, School of Arts, Madras.

Copy to the Director of Industries, for information.

,, the Chief Engineer, Public Works Department, for information with covering letter.

,, Government, for information, with covering letter.

Order—No. 844, Home (Education), dated the 25th June 1917.

Recorded.

(True Extract)

R. RAMACHANDRA RAO,
Secretary to Government.

To the Director of Public Instruction.

,, Public Works Department.

Editors' Table.

GOVERNMENT OF MADRAS

HOME DEPARTMENT

Education

No. 845

From

THE HON'BLE DIWAN BAHADUR

R. RAMACHANDRA RAO AVARGAL,

Secretary to the Government of Madras,

Home (Education) Department,

To

THE UNDER SECRETARY OF STATE FOR INDIA.

Dated Ootacamund, the 25th June 1917.

SIR,

With reference to the instructions conveyed in Lord Hartington's Despatch No. 9 (Public Works), dated the 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 1916-17.

I have the honour to be,

Sir,

Your most obedient servant,

R. RAMACHANDRA RAO,

Secretary to Government.

Report
Recording the — on the working of the College of
Engineering, Madras, during 1916-17 10

READ AGAIN G.O. No., dated 191

191

READ ALSO:—

READ ALSO:-
C. No. 2255A From the D.I.J., No. 3067, dated 15-6-1917

Box 15
Circ 226.17
Ref 226.17

ORDER.

~~Miss~~
Mrs.

No. 844, dated 25-6-1917

Recorded

H. S.

P
23.6.17

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21

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2210117

23/6/77



PEOPLE INTEREST
 June 11, 1917
 To the D. D. I
 P. A. D.
 E. T.

Letter

Letter no. 845 of 25.6.17

To
The Under Secretary of State
for India

per
with Encl
no 5
13.7.17

I
in fo. 101 Edl
21.6.32

Sir,
With reference to the instructions
conveyed in Lord Hardington's
Despatch no 9 (Public Works),
dated the 18th May 1882, I am
directed to forward a copy
of the Proceedings of the Madras
Lab. recording the report on the
working of the College of Engineering,
Madras, during the academic year
1916-17.

I have etc.

mm
23/6/17

Sd/
8.6.17
25/6/17

Current No. dated 191
 G.O. No. 24845 dated 25-6-1917

Number of MS. pages sent { Correspondence 16
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Brief subject

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(a) If a paper is marked to be printed urgently, the Superintendent of the section concerned should sign the Press slip. The Superintendent should exercise a careful discretion in the matter.

(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.

(b) For rules regarding printing of notes, see rule 315 of the office Manual.

(c) The number of copies and the details of distribution should be filled in by the Superintendent or Referencer concerned.

(d) In the absence of special instructions to the Press to keep matter standing for a specified period, ordinary papers of 8 pages and under will be kept standing for one week, and larger papers for two weeks only. The type of notes and of all confidential papers is distributed immediately after striking.

(e) This slip, properly and completely filled in, should accompany every paper sent to Press; it will be returned by the Press when proofs are furnished; it should be sent to the Press when a call is made for revised proofs or when a corrected proof is sent for striking. When finally returned by Press it should be filed with the original order or letter.

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(b) Unless a note to the contrary is made against the matter, pencil entries should not be printed. The Superintendent of the Press may bring to the notice of the Registrar any instance of incomplete or careless editing.

(c) Signature copies of letters to the Secretary of State or to the Government of India should be printed on hand-made paper.

(d) This slip should be returned by the Press to the Secretariat when proofs are furnished; it will be sent back to the Press when proofs are returned corrected and should be finally returned to the Secretariat when struck-off copies are supplied.

(e) The names of the Secretary and Members should be printed when they occur on the right hand side of the first time when they appear on the left side, the initials alone being printed later.

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B

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Type may be released after usual interval at once.

Referencer.
Clerk.

Referencer.
Clerk.

Supdt.

Supdt.

C

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Type may be released after usual interval.

Referencer.
Clerk.

Supdt.

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Revised proof furnished on.....	
Corrected proof received for striking on.....	
Final copies supplied on.....	

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