

Government of Madras

LAW AND EDUCATION DEPARTMENT

G.O. No. 1559, 17th August 1926

College—Engineering—Guindy—Annual report—1925-26—Recorded.

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G.O. No. 1559, 17th August 1926

College—Engineering—Guindy—Annual report—1925-26—Recorded.

READ—the following paper :—

Letter from R. G. GRIEVE, Esq., M.A., F.R.G.S., Acting Director of Public Instruction, to the Secretary to Government, Law and Education Department, dated Madras, the 30th July 1926, R.O.P. No. 13-A-13/26-27.

I have the honour to submit herewith for the information of Government a copy of my Proceedings R.O.P. No. 13-A-13 of 1926-27, dated 26th May 1926, reviewing the annual report on the working of the College of Engineering, Guindy, during 1925-26.

ENCLOSURE

Proceedings of the Director of Public Instruction, R.O.P. No. 13-A-13/26-27, dated 26th May 1926.

Read—the following paper :—

Letter from M.R.Ry. G. NAGARATNAM AYYAR AVARGAL, B.A., B.E., Acting Principal, College of Engineering, Guindy, to the Director of Public Instruction, dated the 16th April 1926, R.C. No. 220/26.

I have the honour to submit herewith the administration report of the College for the academic year 1925-26.

2. *Staff.*—During the year under report Mr. C. L. Cartwright proceeded on leave out of India, in continuation of the summer vacation of 1925. I took over charge of the duties of the Principal from the 6th July 1925 the date of re-opening of the college after the summer vacation. No changes of importance occurred in the personnel of the Gazetted members of the staff during the year except the appointment of Mr. N. Durairaja Ayyar as Acting Additional Professor of Civil Engineering during the leave of absence of Mr. C. L. Cartwright.

It is to be regretted that Mr. H. B. Matthews, Professor of Electrical Engineering of this College, who was on long leave in England, died during May of this year.

A permanent staff was sanctioned during the year for the Power House attached to this college but the sanction takes effect only from the 1st April 1926.

3. *Number on rolls.*—The number of students at the end of the academic year was 184 excluding those on practical course.

Class.	Practical course.	In College.				Total.
		Fourth year division.	Third year division.	Second year division.	First year division.	
Engineer class	41	* 43	† 23	‡ 36	† 48	191
Upper Subordinate	86	..	..	19	15	120
Total	127	43	23	55	63	311

* Four Electrical Engineering Scholarship holders.
† Three " " " "

‡ Two Electrical Engineering Scholarship holders.

The distribution of students by classes of community, district and occupation of parents or guardians is given in appendices A, B and C.

4. *Admission of students.*—The total number of applicants for admission to the Engineer class was 93. The committee for selection reconstituted by Government in G.O. No. 389, Law (Education), dated 18th March 1925, met on 26th June 1925. All the members with the exception of M.R.Ry. M. K. Reddi Avargal were present and selected 45 students. Subsequently three more admissions were made with the approval of the Director of Public Instruction. The Draftsman class was not formed even this year for want of applicants.

5. *Examinations—Engineer class—Senior division.*—The civil branch comprised of 19 students and all passed the final examination six with honours with an average of 65.2 per cent of the total marks.

The mechanical branch consisted of 21 students. All passed the final examination seven with honours gaining an average of 62.3 per cent of the total marks.

Three students of the class (two civil and one mechanical) failed to qualify in practical surveying.

Third year division.—All the 42 students of this class (30 civil and 12 mechanical) passed the sessional examination.

Second year division.—The strength of this class was 26 inclusive of the three Electrical Scholarship holders. All appeared and passed the sessional examination with the exception of three. Two of those who failed rejoined the same class and one left the college. Of those who passed, 14 joined the civil branch and 9 the mechanical branch.

First year division.—All the 35 students of this class passed on in accordance with the college rules to the second year of the course.

Upper Subordinate class—Senior division.—There were 89 students in this class and all with the exception of one passed the final examination, 9 with honours. The failed student was permitted to rejoin the same class.

Junior division.—Eighteen students constituting this class appeared for the sessional examination and passed.

Probationary Subordinate Classes—Second year division of the Schools of Engineering, Trichinopoly and Vizagapatam.—A common examination for the above classes was held this year and 17 from Trichinopoly and 15 from Vizagapatam appeared. Of whom 11 of the former school and 5 of the latter were promoted to the Upper Subordinate course of the college.

6. Result of the University Examinations, 1925—

Nature of examination.	Number appeared according to the years of study.					Number passed according to years of study.					Number passed according to branch of study.		
	Ex students.	Fourth year of study.	Third year of study.	Second year of study.	Total.	Ex students.	Fourth year of study.	Third year of study.	Second year of study.	Total.	Civil.	Mechanical.	Total.
B.E.	16	23	..	..	39	6	22	11	9	28	12	16	28
F.E.	7	15	31	25	78	2	7	11	9	29	..	..	..

7. *Practical course.*—Forty-one Engineer (19 civil and 22 * mechanical) and 87 † Upper Subordinate students commenced the usual course of practical training about the beginning of July last.

The distribution list showing the various works and workshops they joined for the training is given in the following statement :—

Name of works.	Civil Engineers.	Mechanical Engineers.	Upper Subordinates.	Total.
Public Works divisions	6	..	82	88
Public Works Workshops, Madras	9	10	..	19
Do. Dowlaishwaram	1	..	..	1
Public Works Department, Travancore ..	2	1	..	3
Do. Hyderabad	1	..	..	1
Kurnool District Board	..	..	1	1
Cochin State	..	..	1	1
Madras and Southern Mahratta Railway Works	..	..	2	2
Do. do. Workshops	..	3	..	3
South Indian Railway Workshops	..	1	..	1
Bengal-Nagpur Railway Workshops	..	1	..	1
Tata Power Supply Company, Bombay ..	..	2	..	2
Cordite Factory, Aravangadu	..	1	..	1
Generating Station, Sivasamudram	..	1	..	1
Madras Harbour Works	..	2	..	2
	19	22	86	127

* Includes one who passed out in 1924 and joined for practical course this year.
† Excludes two students who did not join for the course this year.

8. *Tata scholars class.*—At the request of the Director, Indian Institute of Science, Bangalore, Government sanctioned a scheme for giving in the college a year's preliminary training in Mechanical Engineering and Workshop practice to students selected for admission to the Department of Electrical Technology of that Institute. Three students were deputed this year and they underwent and completed satisfactorily the courses prescribed for them.

9. *Visits to works.*—In the beginning of September 1925 three parties of students proceeded on a tour of inspection. The first party consisting of the students of E.I. Civil were under the charge of the Acting Professor of Civil Engineering, M.R.Ry. N. Durairaja Ayyar assisted by an Assistant Instructor. They inspected the pumping station and other connected works at Divi, the Rynes Regulator, Orris Reservoir, Kistna Anicut, the Eastern and Western Delta Head Works, the Railway bridge over Kistna and water-works at Bezvada and also witnessed a demonstration of the working of Pneumatic Drill and the 6 feet shutters which were newly fitted over the Kistna Anicut. They then inspected the Anicut, Eastern Delta Headworks and the Railway bridge over Godavari at Dowlaishwaram and proceeded to Butchi where they were shown the Kannigiri Reservoir, the Eastern and Southern channel Head Sluices together with the Surplus escapes. Going thence to Sangam they visited the Anicut head sluices for Kannigiri main canal, Duvvur branch channel, Nellore tank supply channel and other masonry works, etc., on the right and left banks of Pennar river. The party finished at Nellore with the inspection of Nellore anicut with its head works and main canals the Nellore tank with its sluices and its distributory system, Nellore water-works, etc., and returned to Madras on the 17th September 1925.

The second party consisting of the students of E.I.I.C. and U.S.I. accompanied by two Assistant Instructors inspected all the irrigation works mentioned above around Sangam and Kistna deltas and the third party consisting of E. III. and U.S.II. students were taken round the works around Sangam Delta.

At the same time the students of the fourth year Mechanical Engineer classes were taken by Mr. P. Subba Rao, acting Professor of Electrical Engineering, assisted by the Instructor in Electrical Engineering, on a tour of inspection of the Tata Hydro-electric Works around Khandala in Bombay Presidency and similar works in the Mysore State and at Kolar. The party left Madras on 3rd September and arrived at Khandala on the next day. The principal works visited there are :—Pipelines, Forebay, Valvehouse, Duct up to Lonavla lake, Lakes Lonavla and Sherwata, and the Power House at Khopoli and the works at Forebay, etc. In the Mysore State, the party inspected the Mysore Iron Works at Badravati including the Saw Mill, the Receiving Station, the Kaisari Hind Woollen Mills, Sandalwood Oil factory and the Indian Institute of Science at Bangalore and the Surface plant at Nandidroog mines and underground works at the Champion Reef of the Kolar Goldfields.

The total number of students who took part in these tours of inspection were 135 and the total expenditure Rs. 1,812-1-0.

During the session visits were paid as usual to all important local engineering works.

10. *Project course.*—The Project course for the final year Civil Engineer students was introduced for the first time in the history of this college during this year. Though the sanction of Government was received only in December, the course was arranged for in January. As these students had yet to have practice in Theodolite work also the camp period was divided between survey work and project course. The project set for the year was the design of a first class trunk road bridge on the Palar in the Southern Trunk Road near Chingleput. The class was divided into two batches and each batch was given about ten days for field work. They commenced office work on the 26th January and submitted their drawings and papers on the 8th February.

As regards their work the Professor in charge Mr. N. Durairaja Ayyar reports as follows :—

"The level books and diaries submitted by them show that they have methodically arranged their work, reconnoitred the site carefully and maintained their field books properly. Details of the Railway bridge on the Palar, a few miles below the present causeway, have been recorded by them so far as they could be gathered by inspection. As regards the selection of the site all of them have chosen the site of

the causeway itself with the idea of using the causeway as a floor for the bridge; this, however, is not quite right as needless expense has to be incurred for forming a diversion track, to accommodate the traffic during the period of construction.

"As regards the design, girder bridge has been estimated for by every one and three students submitted an alternative design, for an arched bridge. The alternative design could not be worked out fully for want of time.

"As regards the work turned out, it is on the whole creditable to the students. The economic span has been discussed and worked out by practically every one, though, of course, various estimates of the cost of a pier have been made, owing to the uncertainty in the cost of sinking wells. The spans adopted varied from 60 feet to 120 feet. The design of the trusses, the several members composing it, the cross girders and decking has been fully dealt with by all the students. In the case of foundations nearly every one has adopted the right view of sinking the wells to the level of hard clay; excepting one who has adopted an octagonal well, all the others have adopted the circular type of wells. Detailed drawings of curbs have not been made out by most of them and the sinking effort required has not been discussed by any one. Pressure calculations for the various parts such as abutments, wing walls and pier have been made out by all. The provision of a flooring has been omitted by all with the idea of utilizing the causeway as a flooring. A flooring is however unnecessary when as in this case the foundations are taken down to 16 feet below the bed, on the average, to hard black clay and in fact a floor is an obstruction to the inevitable expansion of the waterway during floods."

In this connexion our thanks are due to the District Board Engineer, Chingleput, and the District Board Assistant Engineer at Chingleput, who were very helpful in arranging for the project course at short notice and by finding accommodation for the students and taking care of the instruments and arranging for coolies, etc.

11. *Survey camp*.—The various classes worked as under—

Class.	Strength.	Squads.	Guindy.	Pallavaram and Chingleput.	Nature of work.
E.I.C.	31	10	January	4-20	Curves, Tacheometry, triangulation, project course.
E.II.C.	14	4	18-22	4-16	Curves, triangulation, traversing.
E.III.	37	12	4-22		Levelling, cross sections, etc. Hill contouring at Pallavaram, 3 days.
E.IV.	48	16	4-22		Chain, compass, plane table.
U.S.I.	19	6	18-22	4-16	Triangulation, curves, etc., traverse
U.S.II.	15	4	4-22		Cross sections, fly levels, hill contouring at Pallavaram, 2 days.

The students were accommodated in barracks at Pallavaram, but made their own arrangements for boarding.

The military authorities were pleased to place the barracks at Pallavaram again at our disposal during survey camp. They also lent us a handpump for raising water from the wells.

The cost of Survey camp is Rs. 510 and of Project course Rs. 550.

12. *Power house*.—The supply of power was satisfactory during the year and there were no breakdowns which interfered with the power supply. The Petter Engine supplied the bulk of the power during the first half of the year while the gas engine took all the line load since it was installed. The Campbell set took the morning load when the running of College workshops required a large amount of alternating current.

The erection of the Gas Engine and Producer was completed during the year and brought into use from the 1st September 1925. The works done in this connexion consisted of providing a charging platform, a ladder for workmen to go up to the charging platform, a jib for hauling up the fuel from below to the platform, and some alterations to the roof. It also included the installation of an Electric motor to drive the Ear Extractor.

A new cylinder head was received for the Campbell Engine and fitted. The engine continued to give trouble and it was found on careful measurement that No. 2 Piston was too large by a few thousands of an inch and this was causing undue

friction and heating up. This was remedied by grinding down the piston, but No. 3 cylinder now gave trouble which was also successfully got over. The engine has now been running on all the four cylinders for over five months developing about 60 H.P. and its performance has been generally satisfactory. The engine could not be run on full load for want of a Direct Current generator of sufficient power. It will improve the economy of the plant and the flexibility of the station if the present 16 K.W. generator is replaced by one of 50 K.W. 440-460 Volts—113-108-Amps. This will enable us to take our peak load with only one Engine, and permit of this Engine being run at or near its full capacity nearly all the time, thereby effecting economy in running expenses. The existing 16 K.W. generator will then be run from the Experimental Steam Engine and will be a valuable standby for breakdowns.

The Cable Tower was shifted from its position close to the Power house to a place clear of the building and the lines were changed over. An oil storage well to take about five tons of liquid fuel has now been built so as to enable oil being used with minimum of handling and wastage. The distilled water boiler room has been permanently roofed and fenced.

In addition to fitting and bringing into use the Gas Engine and the Campbell Engines the Petter Engine was thoroughly overhauled and it is now running quite satisfactorily. A number of meters on the switchboard were readjusted connected up to circuits and brought into use during the year. The Power House was entrusted with the work of the cleaning the Gas tank laying the gas and water mains to Physics and Geological laboratories and completing the dark room by fitting panelled shutters and labyrinth ventilators. These were done.

The students under practical course had their two months' training in the practical running and operation of the power plant and generators in the power house and they took very keen interest in this part of their practical course and readily undertook any manual work they were given.

13. *Electrical Engineering Laboratory*.—The fixing of cable racks inside the trenches is nearing completion and during the course of the year the cables will be permanently fixed. Copper Bus bars have been purchased and the work of fixing them behind Alternating and Direct Current panels is progressing. A number of heavy pattern knife switches have been made in our workshops and fixed to the panels. A portable adjustable load for D.C. machines is also made in the workshops.

The fitting up of the workshop attached to the laboratory is completed, a D.C. motor driving the shafting by means of a chain.

Experimental work of students in both A.C. and D.C. engineering was satisfactory.

14. *Mechanical Engineering Laboratory*.—The equipment of this laboratory is practically the same as before, with the exception of a few auxiliary apparatus such as a Pyrometer for ascertaining furnace and flue gas temperatures, a water meter for measuring boiler feed a few hydrometers for testing the specific gravity of oils, etc., and it has not been possible to arrange for individual work by students. A course of Laboratory practice was also arranged for the E. II. Class during the year. The following are among the more important investigations made by the students:—

(1) Checking of the parts of a Babcox and Wilcox Boiler and making drawings of the feed pump.

(2) Dismantling and reassembling including valve setting of the one H. P. Marine type Engine, six H.P. Hornsby Oil Engine, six H.P. Crossley Gas Engine, and the Meyers expansion valve gear of the ten N.H.P. Experimental Steam Engine.

(3) Determining the calorific values of solid and gaseous fuels with the aid of the bomb, Rosenhiem and the Simmon's Abady Gas Calorimeters.

(4) Calibrating pressure and vacuum gauge with the aid of the Crossby dead weight tester and Bailey's Vacuum Gauge tester respectively.

(5) Complete efficiency tests on the Hornsby Oil Engine.

(6) Evaporation tests on the Babcox boilers.

(7) Steam Engine tests on the Experimental Steam Engine.

15. *Strength of materials Laboratory.*—During the year the following machines were repaired in the laboratory and brought into use for class work :—

(a) Captain Sankey's metal bending tester.

(b) Bailey's wire tester.

A foster strain meter and a micrometer microscope were added to the equipment of strain measuring instruments.

In addition to the usual tests for tension, compression, shear bending, impact and hardness, tests for reverse bending tensile, compressive strength of mortars of cement, lime and surki in various proportions of the constituents and conditions and sleeper tests for timbers were carried out by the students.

Tests were undertaken as usual on behalf of Public Works Department and other local departments. Special mention may be made of the progress in the preliminary tests of timbers arranged for with the Forest Research Institute, Dehra Dun. Two specimens were tested for sleepers and the results were sent to Dehra Dun. The results were considered quite satisfactory though we had to improvise our own measuring instruments.

In addition to the sleeper tests for the Indian Forest Department particular tests for the local Forest Department are, at their request, proposed to be carried out to find the suitability of timbers for building purposes speedily instead of waiting for Dehra Dun results which generally take a long period and may not cover all the species. The Forest Department have agreed to get an additional assistant on about Rs. 50 to help the college assistant in carrying out tests for them.

In view of the experimental work on timbers to be done it would be of great advantage to purchase a small handy testing machine to test up to about 10 tons only.

16. *Hydraulic Engineering Laboratory.*—The allotment for the complete fitting up has not yet been made but with the various small sums provided from college funds a certain amount of work has been done so that some experiments can be carried out. The construction of the parapet wall to the outside discharge tank has been completed by the Public Works Department.

Suction and delivery pipes for the 8 inches centrifugal pump have been fitted as also connexion to the Overhead tank and to the Francis turbine. Underground drains with manholes for returning the used up water to the outside discharge tank have also been completed.

Pipes have also been fitted for the 3 inches pump and connected to the accumulator and the Pelton Wheel.

A small Cylindrical tank and a trough from the old college were temporarily fitted up for Orifice and Notch experiments respectively.

17. *Science Laboratory.*—During the year under review the equipment of the laboratories in the Science Department has been considerably improved by extending the gas and water connexions to Physical and Geological sections and by fresh additions to the apparatus. Increased facilities for carrying out experiments in Heat and Light have been effected in the Physical laboratory. The long felt need for equipping the Chemical laboratory with an additional students' working table for which provision has been made in the original plan of the building has also been satisfied. Consequently the work turned over in all the sections of this department has been much more systematic and complete.

18. *Workshops.*—The Workshop Instructor reports that improvement was noticeable in the work of students in the workshops. No new machines were added during the year.

19. *Hostel.*—The Hostel Committee consisting of three Professors continued to work during the year under report. The appointment of Block Superintendents with free quarters was abolished and two were nominated from among the three Block Superintendents on a monthly allowance of Rs. 50 in lieu of free quarters with effect from 1st August 1925. Messrs. J. Webster and M. Sanjeeva Rao are the Deputy Wardens thus appointed.

The strength of the hostel was 200 inclusive of some of the members of staff and practical course students and they were distributed to the various sections as follows :—

Anglo-Indian	..	..	..	..	..	..	8
Muslim	..	..	..	..	..	..	15
Non-Brahman - non-vegetarian	..	..	..	..	..	..	49
Non-Brahman-vegetarian	..	..	..	..	..	..	16
Brahmans	..	..	..	..	..	..	112
Total	..	..	..	..	..	..	200

The average monthly boarding charges worked out as under :—

	RS.	A.	P.
Anglo Indian section	30	0	9
Muslim	20	13	2
Non-vegetarian	20	2	6
Vegetarian	17	3	6

20. *Hospital.*—Mr. A. Govindakutti Nayar, Sub-Assistant Surgeon, was in charge of the hospital during the first half of the year. On his transfer Mr. C. Narayana Menon was posted as Sub-Assistant Surgeon of this college. There was no outbreak of any epidemic during the year except a case of smallpox. Two cases of enteric fever were sent to the General Hospital for treatment.

The total number of cases (inpatients and outpatients) treated during the year was 2,316 with an average daily attendance of about 14.82. The most common complaints were those relating to the digestive system, skin diseases, disease of intestines, local and general injuries, etc. The District Medical Officer, Chingleput, made the usual annual inspection. The general health of the students has been satisfactory.

21. *Athletic Club.*—The Madras Collegiate Athletic Association has again started Inter-Collegiate sports and games but rather late in the year. The College has not won Hockey or Cricket this year, and in football we stand second so far. Our players are still not up to the standard in Tennis though they take keen interest.

The College sports were held this year in connexion with the celebration of the College Day when the Hon'ble Sir C. P. Ramaswami Ayyar, Kt., C.I.E., presided. His Excellency Lord Willingdon prize for the best athlete was this year won by S. C. Nayak of E. IV class. The tug-of-war between staff and students was a new item and attracted some attention, the students being the victors.

22. *University Training Corps.*—Dr. K. C. Chakko reports :—"During the last summer holidays the usual camp was again held at Bangalore. The attendance of students from this college was below the average.

"There were about 16 vacancies at the beginning of the year which were filled up by students from E. III and E. IV without much difficulty. These recruits have been very eager to get their military training and they passed out in elementary squad drill and arms drill in record time.

"The disabilities of the members of the University Training Corps in this college continued to be serious for the greater part of the year and possibly owing to this, there was a marked decline in the enthusiasm of the trained men. Added to the difficulties of conveyance was also the disadvantage of constant changes in the headquarters Instructional staff. Selected men of the College University Training Corps took part in the Naval and Military and Air Force tournament, they lined the streets for His Excellency the Governor on the occasion of the Convocation and kept order on the grounds for College Day. Owing to difficulty of getting rifles for arms drill practice two week-end camps were held for training in the college compound.

"The College men did not show up well in inter-company competitions this year. The introduction of buses into Saidapet and the arrangement made by headquarters recently for bringing rifles for practice wherever there is need makes us hope that the Engineering College men will be able in coming years to win back the name which they had for smartness in drill and also shine in firing and arms drill which by their training as Engineers and surveyors should specially suit them."

22-A. *Employment of Passed Students.*—Of the 47 Engineer students who completed the practical course in 1925 the senior students of the civil and mechanical branches were appointed as Probationary Assistant Executive Engineers, Public Works Department, and 26 others have secured appointment as follows:—

Temporary Supervisors, Public Works Department	14
Probationary Assistant Engineers, His Exalted Highness the Nizam's Public Works Department	2
Temporary Laboratory Assistants, College of Engineering, Guindy ..	2
Temporary Electrician, Electrical Department, Public Works Department	1
Stress Calculator, Bridge section, Madras and Southern Mahratta Railway	1
Temporary Sub-Inspector of Works (Bridgeworks), South Indian Railway	1
Mechanical draftsman, Signal and Interlocking section, South Indian Railway	1
Temporary Electrical Overseer, Madras Port Trust	1
Temporary Electrical Draftsman, Madras Port Trust	1
Temporary Assistant Engineer, Malabar District Board	1
Assistant, The Tata Engineering Co., Ltd., Bombay	1

Sixty-four Upper Subordinates completed the practical course. Reports have been received of 31 of them having secured employment as under:—

Temporary Overseer, Public Works Department	3
Do. Draftsman, Public Works Department	2
Do. Surveyor	1
Do. Local Fund Overseers	6
Do. Local Fund Sub-Overseers	2
Do. Overseer, Madras Corporation	3
Do. Surveyor, Madras Corporation	1
Do. Local Fund Draftsman	2
Public Works Inspector, Madras and Southern Mahratta Railway, Madras	1
Special Works Inspector, Trichinopoly (Junction) Remodelling works, South Indian Railway	1
Sub-Inspector of Works, South Indian Railway	1
Temporary Overseer, South Indian Railway	1
Do. Draftsman, South Indian Railway	3
Do. Surveyor, do.	2
Mansion Overseer, Jeypore State	1
Overseer, Andhra Engineering Co.	1

23. *Library.*—During the year under report 72 books were added to the library which now contains 7,305 volumes. The number of books issued to the staff and students was 1,171 and 4,431, respectively and in addition 3,535 books were taken out for reference in the Reading room. The library has been checked and found correct.

24. *Attendance.*—The percentage of attendance to members on the rolls of the college was 94.8. Detailed particulars for the several classes are given in Appendix E.

25. *Casualties.*—I regret I have to record the death on account of fever of an Upper Subordinate student who was undergoing practical course in the Public Works Department.

26. *Financial details.*—These are furnished in Appendix G. The receipts for 1925-26 amounted to Rs. 40,751 and the charges to Rs. 2,09,979 resulting in a net cost to Government of Rs. 1,69,228. The average number of students on rolls was 184.4 and the net cost per student Rs. 918, the increase in the net cost per student as compared with previous years being due to the fall in the number of students. One other reason for the increase in the charges is the inclusion of a non-recurring expenditure of Rs. 7,300 towards the purchase of tents for the institution of the project course.

The supply of electrical energy to the King Institute and Government House on a large scale began in the month of October 1925 and we have received a receipt of Rs. 7,600 during the year. It is hoped that during the next year we shall be getting a larger amount in return.

These figures are subject to modification when particulars of further adjustments, if any, are communicated by the Accountant-General.

27. *Service Books.*—The service books of non-gazetted officers have been brought up to 31st March 1926 and verified.

28. *General.*—I must here record my acknowledgment to the members of staff who heartily co-operated towards the smooth working of the college and the hostel.

APPENDIX A.

Class.	Europeans and Eurasians.	Indian Christians.	Muham-madan.	Hindus.				Total.
				Brahmans.	Non-Brahmans.	Adi-Dravidas.	Others.	
Engineer class	5	15	14	76	40	..	..	150
Upper Subordinate class	1	4	..	17	12	..	..	34
Total	6	19	14	93	52	..	..	184

APPENDIX B.

Districts.	Engineer classes.	Upper Subordinate classes.	Total.	Districts.	Engineer classes.	Upper Subordinate classes.	Total.
Ganjam	..	1	1	Ramnad	..	1	1
Vizagapatam	1	1	2	Tinnevely	9	2	11
Godavari	3	2	5	Salem	1	..	1
Kistna	3	1	4	Coimbatore	1	..	1
Guntur	6	1	7	Malabar	12	4	16
Anantapur	1	..	1	South Kanara	9	..	9
Nellore	4	..	4	Pudukottah	..	1	1
Bellary	2	1	3	Cochin	9	..	9
Madras	7	1	8	Travancore	19	3	22
Chingleput	4	..	4	Bangalore	1	..	1
North Arcot	7	1	8	Mysore	3	..	3
Chittoor	3	..	3	Hyderabad	13	..	13
South Arcot	2	1	3				
Tanjore	18	7	25	Total	150	34	184
Trichinopoly	10	6	16				
Madura	2	..	2				

APPENDIX C.

Class.	Wealth.			Total.	Occupation.							
	Richer classes.	Middle classes.	Poorer classes.		Officials.	Petty officials.	Traders.	Land holders.	Artisans.	Mendicants.	Others.	Total.
Engineer class, 4th year division.	1	39	3	43	25	2	2	12	2	..	..	43
Engineer class, 3rd year division.	3	17	3	23	15	..	2	6	..	..	..	23
Engineer class, 2nd year division.	1	33	2	36	23	2	2	9	..	..	..	36
Engineer class, 1st year division.	6	39	3	48	30	1	4	12	1	..	..	48
Upper Subordinate class, 2nd year division.	..	18	1	19	3	2	1	13	..	..	..	19
Upper Subordinate class, 1st year division.	..	10	5	15	3	2	..	10	..	..	..	15
Total	11	156	17	184	99	9	11	62	3	..	..	184

APPENDIX D.

Percentage of marks gained in the Session 1924-25.

Engineer class—Fourth year division.

Civil—							
Branch I. Mathematics and Science	..	..	..	..	..	..	62.0
„ II. Engineering	..	..	..	..	..	..	66.6
Physical exercises	..	..	..	..	..	..	57.2
Average	..	..	..	..	..	..	65.2

Mechanical—

Branch I. Mathematics and Science	..	..	..	..	..	..	58.9
„ II. Engineering	..	..	..	..	..	..	63.5
Physical exercises	..	..	..	..	..	..	56.0
Average	..	..	..	..	..	..	62.3

Engineer class—Third year division.

Civil—							
Branch I. Mathematics and Science	..	..	..	..	..	..	56.2
„ II. Engineering	..	..	..	..	..	..	63.6
Physical exercises	..	..	..	..	..	..	55.0
Average	..	..	..	..	..	..	60.6

Mechanical—

Branch I. Mathematics and Science	..	..	..	..	..	..	55.1
„ II. Engineering	..	..	..	..	..	..	62.2
Physical exercises	..	..	..	..	..	..	53.4
Average	..	..	..	..	..	..	59.8

Engineer class—Second year division.

Branch I. Mathematics and Science	..	..	..	..	..	..	53.0
„ II. Engineering	..	..	..	..	..	..	61.8
Physical exercises	..	..	..	..	..	..	61.3
Average	..	..	..	..	..	..	58.2

Engineer class—First year division.

Branch I. Mathematics and Science	..	..	..	..	..	..	53.5
„ II. Engineering	..	..	..	..	..	..	57.0
Physical exercises	..	..	..	..	..	..	56.2
Average	..	..	..	..	..	..	56.4

Upper Subordinate class—Second year division.

Branch I. Mathematics	..	..	..	..	..	..	58.6
„ II. Engineering	..	..	..	..	..	..	60.7
Physical exercises	..	..	..	..	..	..	51.8
Average	..	..	..	..	..	..	59.9

Upper Subordinate class—First year division.

Branch I. Mathematics	..	..	..	..	..	..	74.0
„ II. Engineering	..	..	..	..	..	..	60.4
Physical exercises	..	..	..	..	..	..	69.3
Average	..	..	..	..	..	..	65.6

APPENDIX E.

Class.	Average number on rolls.	Average daily attendance.
Engineer class, Fourth year division	43.0	40.9
„ Third	23.0	22.2
„ Second	36.7	34.2
„ First	47.8	45.4
Upper Subordinate class—Second year division	18.9	17.7
„ First division	15.0	14.5
Total	184.4	174.9
Percentage of numbers present to number on rolls	..	.. 94.8

APPENDIX F.

Classification of vacancies notified during 1925-26.

	Government.				Local Boards and Municipalities.				Railways.				Native States.				Private Employees.				
	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Total.
Engineers and Assistant Engineers.	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Mechanical Engineers	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	5
Supervisors	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Overseers	..	..	5	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	7
Sub-overseers	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..	3
Draftsman	..	..	4	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13
Tracers	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Surveyors	..	..	1	1	..	..	2	..	1	..	..	..	..	..	..	..	1	..	..	..	6
Total	2	4	10	10	..	..	5	..	1	..	..	..	1	..	..	..	1	1	1	..	36

APPENDIX G.

FINANCIAL DETAILS FOR 1925-26.

Receipts.

	RS.	A.	P.
Tuition, registration fees and fines	25,448	15	0
Hostel room rent	6,437	10	8
Miscellaneous receipts	1,117	7	10
Receipts on account of electric current supply	7,636	0	0
Workshop receipts	111	0	0
Total	40,751	1	6

Charges.

	RS.	A.	P.
Principal and Professors, in non-voted service	45,238	11	0
Professors and instructors in voted service	38,963	15	0
Pay of establishment, masters and assistant instructors, etc.	62,228	3	0
Travelling allowance	2,348	5	0
Government scholarships	5,176	15	0
Library books, medals and prizes	998	7	0
Pay of menials	663	8	1
Telephone charges	1,201	3	10
Survey camp charges	540	0	6
Irrigation tour and local inspection charges	2,122	12	9
Project course expenses and purchase of tents	7,871	9	6
Workshop premium	250	0	0
Printing of maps	299	13	10
Office expenses, pay of gardeners and other menials and other miscellaneous charges	4,731	3	1
Repairs	797	6	5
Customs duty	624	13	0
Laboratory charges	4,779	3	0
Workshop and Power House charges including hospital charges	31,142	14	9
Total	2,09,979	0	9
Net cost to Government	1,69,227	15	3
Average number of students on rolls 184.4			
Net cost per student	917	11	0
Average tuition fee paid by student per annum	138	0	0

R.O.P. No. 13-A-13/26-27, dated 26th May 1926.

Recorded.

- The number on the rolls of the college excluding those on practical courses decreased from 250 in 1924-25 to 184 in 1925-26.
- The percentage of passes in the University examination compares favourably with that of the previous year.
- The administration of the college continued to be satisfactory.
- Shortly after the close of the year under review, information was received of the death of Mr. C. L. Cartwright, the permanent Principal, while on leave. By this, the department and the college have sustained the loss of a devoted and efficient officer.

R. G. GRIEVE,
Acting Director of Public Instruction.

To the Principal, College of Engineering, Guindy.

- Copy to the Principals of other Government Colleges.
 " all District Educational Officers.
 " the Superintendent, School of Arts, Madras.
 " the Schools of Engineering, Vizagapatam and Trichinopoly.
 " the Director of Industries, for information.
 " the Chief Engineer, Public Works Department, for information.
 " the Commissioner, Corporation of Madras.
 " the President, Board of Visitors of the College (through the Principal).
 " the Directors of Public Instruction of other Provinces.
 " Government, with covering letter.

Order—No. 1559, Law and Education, dated 17th August 1926.

Recorded.

(By order of the Government, Ministry of Education)

V. T. KRISHNAMA ACHARIYAR,
Secretary to Government.

To the Director of Public Instruction,
 " Public Works and Labour Department.
 " Accountant-General.

Editors' Table.

Government of Madras

LAW AND EDUCATION DEPARTMENT

G.O. No. 1559, 17th August 1926

College—Engineering—Guindy—Annual report—1925-26—Recorded.

Read—the following paper:—

Letter from R. G. GRIEVE, Esq., M.A., F.R.G.S., Acting Director of Public Instruction, to the Secretary to Government, Law and Education Department, dated Madras, the 30th July 1926, R.O.P. No. 13-A-13/26-27.

I have the honour to submit herewith for the information of Government a copy of my Proceedings R.O.P. No. 13-A-13 of 1926-27, dated 26th May 1926, reviewing the annual report on the working of the College of Engineering, Guindy, during 1925-26.

ENCLOSURE

Proceedings of the Director of Public Instruction, R.O.P. No. 13-A-13/26-27,
dated 26th May 1926.

Read—the following paper:—

Letter from M.R.Ry. G. NAGARATNAM AYYAR AVARGAL, B.A., B.E., Acting Principal, College of Engineering, Guindy, to the Director of Public Instruction, dated the 16th April 1926, R.C. No. 220/26.

I have the honour to submit herewith the administration report of the College for the academic year 1925-26.

2. *Staff.*—During the year under report Mr. C. L. Cartwright proceeded on leave out of India, in continuation of the summer vacation of 1925. I took over charge of the duties of the Principal from the 6th July 1925 the date of re-opening of the college after the summer vacation. No changes of importance occurred in the personnel of the Gazetted members of the staff during the year except the appointment of Mr. N. Durairaja Ayyar as Acting Additional Professor of Civil Engineering during the leave of absence of Mr. C. L. Cartwright.

It is to be regretted that Mr. H. B. Matthews, Professor of Electrical Engineering of this College, who was on long leave in England, died during May of this year.

A permanent staff was sanctioned during the year for the Power House attached to this college but the sanction takes effect only from the 1st April 1926.

3. *Number on rolls.*—The number of students at the end of the academic year was 184 excluding those on practical course.

Class.	Practical course.	In College.				Total.
		Fourth year division.	Third year division.	Second year division.	First year division.	
Engineer class	41	* 43	† 23	‡ 36	† 48	191
Upper Subordinate	86	..	..	19	15	120
Total	127	43	23	55	63	311

* Four Electrical Engineering Scholarship holders.

† Three " " " "

‡ Two Electrical Engineering Scholarship holders.

The distribution of students by classes of community, district and occupation of parents or guardians is given in appendices A, B and C.

4. *Admission of students.*—The total number of applicants for admission to the Engineer class was 93. The committee for selection reconstituted by Government in G.O. No. 339, Law (Education), dated 13th March 1925, met on 26th June 1925. All the members with the exception of M.R.Ry. M. K. Reddi Avargal were present and selected 45 students. Subsequently three more admissions were made with the approval of the Director of Public Instruction. The Draftsman class was not formed even this year for want of applicants.

5. *Examinations—Engineer class—Senior division.*—The civil branch comprised of 19 students and all passed the final examination six with honours with an average of 65.2 per cent of the total marks.

The mechanical branch consisted of 21 students. All passed the final examination seven with honours gaining an average of 62.3 per cent of the total marks.

Three students of the class (two civil and one mechanical) failed to qualify in practical surveying.

Third year division.—All the 42 students of this class (30 civil and 12 mechanical) passed the sessional examination.

Second year division.—The strength of this class was 26 inclusive of the three Electrical Scholarship holders. All appeared and passed the sessional examination with the exception of three. Two of those who failed rejoined the same class and one left the college. Of those who passed, 14 joined the civil branch and 9 the mechanical branch.

First year division.—All the 35 students of this class passed on in accordance with the college rules to the second year of the course.

Upper Subordinate class—Senior division.—There were 89 students in this class and all with the exception of one passed the final examination, 9 with honours. The failed student was permitted to rejoin the same class.

Junior division.—Eighteen students constituting this class appeared for the sessional examination and passed.

Probationary Subordinate Classes—Second year division of the Schools of Engineering, Trichinopoly and Vizagapatam.—A common examination for the above classes was held this year and 17 from Trichinopoly and 15 from Vizagapatam appeared. Of whom 11 of the former school and 5 of the latter were promoted to the Upper Subordinate course of the college.

6. Result of the University Examinations, 1925—

Nature of examination.	Number appeared according to the years of study.					Number passed according to years of study.					Number passed according to branch of study.		
	Ex-students.	Fourth year of study.	Third year of study.	Second year of study.	Total.	Ex-students.	Fourth year of study.	Third year of study.	Second year of study.	Total.	Civil.	Mechanical.	Total.
B.E.	16	23	..	..	39	6	22	11	..	28	12	16	28
F.E.	7	15	31	25	78	2	7	11	9	29	..	..	..

7. *Practical course.*—Forty-one Engineer (19 civil and 22 * mechanical) and 87 † Upper Subordinate students commenced the usual course of practical training about the beginning of July last.

The distribution list showing the various works and workshops they joined for the training is given in the following statement:—

Name of works.	Civil Engineers.	Mechanical Engineers.	Upper Subordinates.	Total.
Public Works divisions	6	..	..	6
Public Works Workshops, Madras ..	9	10	82	88
Do. Dowlaiswaram ..	1	..	..	1
Public Works Department, Travancore ..	2	1	..	3
Do. Hyderabad ..	1	..	..	1
Kurnool District Board ..	..	..	1	1
Cochin State ..	..	..	1	1
Madras and Southern Mahratta Railway Works ..	..	..	1	1
Do. do. Workshops ..	..	3	2	5
South Indian Railway Workshops ..	..	1	..	1
Bengal-Nagpur Railway Workshops ..	..	1	..	1
Tata Power Supply Company, Bombay ..	..	2	..	2
Cordite Factory, Aravangadu ..	..	1	..	1
Generating Station, Sivasamudram ..	..	1	..	1
Madras Harbour Works ..	..	2	..	2
	19	22	86	127

* Includes one who passed out in 1924 and joined for practical course this year.
† Excludes two students who did not join for the course this year.

8. *Tata scholars class.*—At the request of the Director, Indian Institute of Science, Bangalore, Government sanctioned a scheme for giving in the college a year's preliminary training in Mechanical Engineering and Workshop practice to students selected for admission to the Department of Electrical Technology of that Institute. Three students were deputed this year and they underwent and completed satisfactorily the courses prescribed for them.

9. *Visits to works.*—In the beginning of September 1925 three parties of students proceeded on a tour of inspection. The first party consisting of the students of E.I. Civil were under the charge of the Acting Professor of Civil Engineering, M.R.Ry. N. Durairaja Ayyar assisted by an Assistant Instructor. They inspected the pumping station and other connected works at Divi, the Rynes Regulator, Orris Reservoir, Kistna Anicut, the Eastern and Western Delta Head Works, the Railway bridge over Kistna and water-works at Bezvada and also witnessed a demonstration of the working of Pneumatic Drill and the 6 feet shutters which were newly fitted over the Kistna Anicut. They then inspected the Anicut, Eastern Delta Headworks and the Railway bridge over Godavari at Dowlaiswaram and proceeded to Butchi where they were shown the Kannigiri Reservoir, the Eastern and Southern channel Head Sluices together with the Surplus escapes. Going thence to Sangam they visited the Anicut head sluices for Kannigiri main canal, Duvvur branch channel, Nellore tank supply channel and other masonry works, etc., on the right and left banks of Pennar river. The party finished at Nellore with the inspection of Nellore anicut with its head works and main canals the Nellore tank with its sluices and its distributory system, Nellore water-works, etc., and returned to Madras on the 17th September 1925.

The second party consisting of the students of E.II.C. and U.S.I. accompanied by two Assistant Instructors inspected all the irrigation works mentioned above around Sangam and Kistna deltas and the third party consisting of E. III. and U.S.II. students were taken round the works around Sangam Delta.

At the same time the students of the fourth year Mechanical Engineer classes were taken by Mr. P. Subba Rao, acting Professor of Electrical Engineering, assisted by the Instructor in Electrical Engineering, on a tour of inspection of the Tata Hydro-electric Works around Khandala in Bombay Presidency and similar works in the Mysore State and at Kolar. The party left Madras on 3rd September and arrived at Khandala on the next day. The principal works visited there are:—Pipelines, Forebay, Valvehouse, Duct up to Lonavla lake, Lakes Lonavla and Sherwata, and the Power House at Khopoli and the works at Forebay, etc. In the Mysore State, the party inspected the Mysore Iron Works at Badravati including the Saw Mill, the Receiving Station, the Kaisari Hind Woollen Mills, Sandalwood Oil factory and the Indian Institute of Science at Bangalore and the Surface plant at Nandidroog mines and underground works at the Champion Reef of the Kolar Goldfields.

The total number of students who took part in these tours of inspection were 135 and the total expenditure Rs. 1,812-1-0.

During the session visits were paid as usual to all important local engineering works.

10. *Project course.*—The Project course for the final year Civil Engineer students was introduced for the first time in the history of this college during this year. Though the sanction of Government was received only in December, the course was arranged for in January. As these students had yet to have practice in Theodolite work also the camp period was divided between survey work and project course. The project set for the year was the design of a first class trunk road bridge on the Palar in the Southern Trunk Road near Chingleput. The class was divided into two batches and each batch was given about ten days for field work. They commenced office work on the 26th January and submitted their drawings and papers on the 8th February.

As regards their work the Professor in charge Mr. N. Durairaja Ayyar reports as follows:—

"The level books and diaries submitted by them show that they have methodically arranged their work, reconnoitred the site carefully and maintained their field books properly. Details of the Railway bridge on the Palar, a few miles below the present causeway, have been recorded by them so far as they could be gathered by inspection. As regards the selection of the site all of them have chosen the site of

the causeway itself with the idea of using the causeway as a floor for the bridge; this, however, is not quite right as needless expense has to be incurred for forming a diversion track, to accommodate the traffic during the period of construction.

"As regards the design, girder bridge has been estimated for by every one and three students submitted an alternative design, for an arched bridge. The alternative design could not be worked out fully for want of time.

"As regards the work turned out, it is on the whole creditable to the students. The economic span has been discussed and worked out by practically every one, though, of course, various estimates of the cost of a pier have been made, owing to the uncertainty in the cost of sinking wells. The spans adopted varied from 60 feet to 120 feet. The design of the trusses, the several members composing it, the cross girders and decking has been fully dealt with by all the students. In the case of foundations nearly every one has adopted the right view of sinking the wells to the level of hard clay; excepting one who has adopted an octagonal well, all the others have adopted the circular type of wells. Detailed drawings of curbs have not been made out by most of them and the sinking effort required has not been discussed by any one. Pressure calculations for the various parts such as abutments, wing walls and pier have been made out by all. The provision of a flooring has been omitted by all with the idea of utilizing the causeway as a flooring. A flooring is however unnecessary when as in this case the foundations are taken down to 16 feet below the bed, on the average, to hard black clay and in fact a floor is an obstruction to the inevitable expansion of the waterway during floods."

In this connexion our thanks are due to the District Board Engineer, Chingleput, and the District Board Assistant Engineer at Chingleput, who were very helpful in arranging for the project course at short notice and by finding accommodation for the students and taking care of the instruments and arranging for coolies, etc.

11. *Survey camp.*—The various classes worked as under—

Class.	Strength.	Squads.	Guindy.	Pallavaram and Chingleput.	Nature of work.
E.I.C.	31	10	January	4-20	Curves, Tacheometry, triangulation, project course.
E.II.C.	14	4	18-22	4-16	Curves, triangulation, traversing.
E.III.	37	12	4-22		Levelling, cross sections, etc. Hill contouring at Pallavaram, 3 days.
E.IV.	48	16	4-22		Chain, compass, plane table.
U.S.I.	19	6	18-22	4-16	Triangulation, curves, etc., traverse.
U.S.II.	15	4	4-22		Cross sections, fly levels, hill contouring at Pallavaram, 2 days.

The students were accommodated in barracks at Pallavaram, but made their own arrangements for boarding.

The military authorities were pleased to place the barracks at Pallavaram again at our disposal during survey camp. They also lent us a handpump for raising water from the wells.

The cost of Survey camp is Rs. 510 and of Project course Rs. 550.

12. *Power house.*—The supply of power was satisfactory during the year and there were no breakdowns which interfered with the power supply. The Petter Engine supplied the bulk of the power during the first half of the year while the gas engine took all the line load since it was installed. The Campbell set took the morning load when the running of College workshops required a large amount of alternating current.

The erection of the Gas Engine and Producer was completed during the year and brought into use from the 1st September 1925. The works done in this connexion consisted of providing a charging platform, a ladder for workmen to go up to the charging platform, a jib for hauling up the fuel from below to the platform, and some alterations to the roof. It also included the installation of an Electric motor to drive the Ear Extractor.

A new cylinder head was received for the Campbell Engine and fitted. The engine continued to give trouble and it was found on careful measurement that No. 2 Piston was too large by a few thousands of an inch and this was causing undue

friction and heating up. This was remedied by grinding down the piston, but No. 3 cylinder now gave trouble which was also successfully got over. The engine has now been running on all the four cylinders for over five months developing about 60 H.P. and its performance has been generally satisfactory. The engine could not be run on full load for want of a Direct Current generator of sufficient power. It will improve the economy of the plant and the flexibility of the station if the present 16 K.W. generator is replaced by one of 50 K.W. 440-460 Volts—113-108-Amps. This will enable us to take our peak load with only one Engine, and permit of this Engine being run at or near its full capacity nearly all the time, thereby effecting economy in running expenses. The existing 16 K.W. generator will then be run from the Experimental Steam Engine and will be a valuable standby for breakdowns.

The Cable Tower was shifted from its position close to the Power house to a place clear of the building and the lines were changed over. An oil storage well to take about five tons of liquid fuel has now been built so as to enable oil being used with minimum of handling and wastage. The distilled water-boiler room has been permanently roofed and fenced.

In addition to fitting and bringing into use the Gas Engine and the Campbell Engines the Petter Engine was thoroughly overhauled and it is now running quite satisfactorily. A number of meters on the switchboard were readjusted connected up to circuits and brought into use during the year. The Power House was entrusted with the work of the cleaning the Gas tank laying the gas and water mains to Physics and Geological laboratories and completing the dark room by fitting panelled shutters and labyrinth ventilators. These were done.

The students under practical course had their two months' training in the practical running and operation of the power plant and generators in the power house and they took very keen interest in this part of their practical course and readily undertook any manual work they were given.

13. *Electrical Engineering Laboratory.*—The fixing of cable racks inside the trenches is nearing completion and during the course of the year the cables will be permanently fixed. Copper Bus bars have been purchased and the work of fixing them behind Alternating and Direct Current panels is progressing. A number of heavy pattern knife switches have been made in our workshops and fixed to the panels. A portable adjustable load for D.C. machines is also made in the workshops.

The fitting up of the workshop attached to the laboratory is completed, a D.C. motor driving the shafting by means of a chain.

Experimental work of students in both A.C. and D.C. engineering was satisfactory.

14. *Mechanical Engineering Laboratory.*—The equipment of this laboratory is practically the same as before, with the exception of a few auxiliary apparatus such as a Pyrometer for ascertaining furnace and flue gas temperatures, a water meter for measuring boiler feed a few hydrometers for testing the specific gravity of oils, etc., and it has not been possible to arrange for individual work by students. A course of Laboratory practice was also arranged for the E. II. Class during the year. The following are among the more important investigations made by the students:—

(1) Checking of the parts of a Babcox and Wilcox Boiler and making drawings of the feed pump.

(2) Dismantling and reassembling including valve setting of the one H. P. Marine type Engine, six H.P. Hornsby Oil Engine, six H.P. Crossley Gas Engine, and the Meyers expansion valve gear of the ten N.H.P. Experimental Steam Engine.

(3) Determining the calorific values of solid and gaseous fuels with the aid of the bomb, Rosenhiem and the Simmon's Abady Gas Calorimeters.

(4) Calibrating pressure and vacuum gauge with the aid of the Crossby dead weight tester and Bailey's Vacuum Gauge tester respectively.

(5) Complete efficiency tests on the Hornsby Oil Engine.

(6) Evaporation tests on the Babcox boilers.

(7) Steam Engine tests on the Experimental Steam Engine.

15. *Strength of materials Laboratory.*—During the year the following machines were repaired in the laboratory and brought into use for class work :—

- (a) Captain Sankey's metal bending tester.
- (b) Bailey's wire tester.

A foster strain meter and a micrometer microscope were added to the equipment of strain measuring instruments.

In addition to the usual tests for tension, compression, shear bending, impact and hardness, tests for reverse bending tensile, compressive strength of mortars of cement, lime and surki in various proportions of the constituents and conditions and sleeper tests for timbers were carried out by the students.

Tests were undertaken as usual on behalf of Public Works Department and other local departments. Special mention may be made of the progress in the preliminary tests of timbers arranged for with the Forest Research Institute, Dehra Dun. Two specimens were tested for sleepers and the results were sent to Dehra Dun. The results were considered quite satisfactory though we had to improvise our own measuring instruments.

In addition to the sleeper tests for the Indian Forest Department particular tests for the local Forest Department are, at their request, proposed to be carried out to find the suitability of timbers for building purposes speedily instead of waiting for Dehra Dun results which generally take a long period and may not cover all the species. The Forest Department have agreed to get an additional assistant on about Rs. 50 to help the college assistant in carrying out tests for them.

In view of the experimental work on timbers to be done it would be of great advantage to purchase a small handy testing machine to test up to about 10 tons only.

16. *Hydraulic Engineering Laboratory.*—The allotment for the complete fitting up has not yet been made but with the various small sums provided from college funds a certain amount of work has been done so that some experiments can be carried out. The construction of the parapet wall to the outside discharge tank has been completed by the Public Works Department.

Suction and delivery pipes for the 8 inches centrifugal pump have been fitted as also connexion to the Overhead tank and to the Francis turbine. Underground drains with manholes for returning the used up water to the outside discharge tank has also been completed.

Pipes have also been fitted for the 3 inches pump and connected to the accumulator and the Pelton Wheel.

A small Cylindrical tank and a trough from the old college were temporarily fitted up for Orifice and Notch experiments respectively.

17. *Science Laboratory.*—During the year under review the equipment of the laboratories in the Science Department has been considerably improved by extending the gas and water connexions to Physical and Geological sections and by fresh additions to the apparatus. Increased facilities for carrying out experiments in Heat and Light have been effected in the Physical laboratory. The long felt need for equipping the Chemical laboratory with an additional students' working table for which provision has been made in the original plan of the building has also been satisfied. Consequently the work turned over in all the sections of this department has been much more systematic and complete.

18. *Workshops.*—The Workshop Instructor reports that improvement was noticeable in the work of students in the workshops. No new machines were added during the year.

19. *Hostel.*—The Hostel Committee consisting of three Professors continued to work during the year under report. The appointment of Block Superintendents with free quarters was abolished and two were nominated from among the three Block Superintendents on a monthly allowance of Rs. 50 in lieu of free quarters with effect from 1st August 1925. Messrs. J. Webster and M. Sanjeeva Rao are the Deputy Wardens thus appointed.

The strength of the hostel was 200 inclusive of some of the members of staff and practical course students and they were distributed to the various sections as follows :—

Anglo-Indian	..	..	..	..	..	..	8
Muslim	..	..	..	..	..	..	15
Non-Brahman—non-vegetarian	..	..	..	..	..	..	49
Non-Brahman-vegetarian	..	..	..	..	..	..	16
Brahmans	..	..	..	..	..	..	112
Total	..	..	..	..	..	..	200

The average monthly boarding charges worked out as under :—

	RS.	A.	P.
Anglo-Indian section	..	..	..
Muslim	..	..	..
Non-vegetarian	..	..	..
Vegetarian	..	..	..
	30	0	9
	20	13	2
	20	2	6
	17	3	6

20. *Hospital.*—Mr. A. Govindakutti Nayar, Sub-Assistant Surgeon, was in charge of the hospital during the first half of the year. On his transfer Mr. C. Narayana Menon was posted as Sub-Assistant Surgeon of this college. There was no outbreak of any epidemic during the year except a case of smallpox. Two cases of enteric fever were sent to the General Hospital for treatment.

The total number of cases (inpatients and outpatients) treated during the year was 2,316 with an average daily attendance of about 14.82. The most common complaints were those relating to the digestive system, skin diseases, disease of intestines, local and general injuries, etc. The District Medical Officer, Chingleput, made the usual annual inspection. The general health of the students has been satisfactory.

21. *Athletic Club.*—The Madras Collegiate Athletic Association has again started Inter-Collegiate sports and games but rather late in the year. The College has not won Hockey or Cricket this year, and in football we stand second so far. Our players are still not up to the standard in Tennis though they take keen interest.

The College sports were held this year in connexion with the celebration of the College Day when the Hon'ble Sir C. P. Ramaswami Ayyar, Kt., C.I.E., presided. His Excellency Lord Willingdon prize for the best athlete was this year won by S. C. Nayak of E. IV class. The tug-of-war between staff and students was a new item and attracted some attention, the students being the victors.

22. *University Training Corps.*—Dr. K. C. Chakko reports :—"During the last summer holidays the usual camp was again held at Bangalore. The attendance of students from this college was below the average.

"There were about 16 vacancies at the beginning of the year which were filled up by students from E. III and E. IV without much difficulty. These recruits have been very eager to get their military training and they passed out in elementary squad drill and arms drill in record time.

"The disabilities of the members of the University Training Corps in this college continued to be serious for the greater part of the year and possibly owing to this, there was a marked decline in the enthusiasm of the trained men. Added to the difficulties of conveyance was also the disadvantage of constant changes in the headquarters instructional staff. Selected men of the College University Training Corps took part in the Naval and Military and Air Force tournament, they lined the streets for His Excellency the Governor on the occasion of the Convocation and kept order on the grounds for College Day. Owing to difficulty of getting rifles for arms drill practice two week-end camps were held for training in the college compound.

"The College men did not show up well in inter-company competitions this year. The introduction of buses into Saidapet and the arrangement made by headquarters recently for bringing rifles for practice wherever there is need makes us hope that the Engineering College men will be able in coming years to win back the name which they had for smartness in drill and also shine in firing and arms drill which by their training as Engineers and surveyors should specially suit them."

22-A. *Employment of Passed Students.*—Of the 47 Engineer students who completed the practical course in 1925 the senior students of the civil and mechanical branches were appointed as Probationary Assistant Executive Engineers, Public Works Department, and 26 others have secured appointment as follows:—

Temporary Supervisors, Public Works Department	14
Probationary Assistant Engineers, His Exalted Highness the Nizam's Public Works Department	2
Temporary Laboratory Assistants, College of Engineering, Guindy ..	2
Temporary Electrician, Electrical Department, Public Works Department	1
Stress Calculator, Bridge section, Madras and Southern Mahratta Railway	1
Temporary Sub-Inspector of Works (Bridgeworks), South Indian Railway	1
Mechanical draftsman, Signal and Interlocking section, South Indian Railway	1
Temporary Electrical Overseer, Madras Port Trust	1
Temporary Electrical Draftsman, Madras Port Trust	1
Temporary Assistant Engineer, Malabar District Board	1
Assistant, The Tata Engineering Co., Ltd., Bombay	1

Sixty-four Upper Subordinates completed the practical course. Reports have been received of 31 of them having secured employment as under:—

Temporary Overseer, Public Works Department	3
Do. Draftsman, Public Works Department	2
Do. Surveyor	1
Do. Local Fund Overseers	6
Do. Local Fund Sub-Overseers	2
Do. Overseer, Madras Corporation	3
Do. Surveyor, Madras Corporation	1
Do. Local Fund Draftsman	2
Public Works Inspector, Madras and Southern Mahratta Railway, Madras	1
Special Works Inspector, Trichinopoly (Junction) Remodelling works, South Indian Railway	1
Sub-Inspector of Works, South Indian Railway	1
Temporary Overseer, South Indian Railway	1
Do. Draftsman, South Indian Railway	3
Do. Surveyor, do.	2
Mansion Overseer, Jeypore State	1
Overseer, Andhra Engineering Co.	1

23. *Library.*—During the year under report 72 books were added to the library which now contains 7,305 volumes. The number of books issued to the staff and students was 1,171 and 4,431, respectively and in addition 5,535 books were taken out for reference in the Reading room. The library has been checked and found correct.

24. *Attendance.*—The percentage of attendance to members on the rolls of the college was 94.8. Detailed particulars for the several classes are given in Appendix E.

25. *Casualties.*—I regret I have to record the death on account of fever of an Upper Subordinate student who was undergoing practical course in the Public Works Department.

26. *Financial details.*—These are furnished in Appendix G. The receipts for 1925-26 amounted to Rs. 40,751 and the charges to Rs. 2,09,979 resulting in a net cost to Government of Rs. 1,69,228. The average number of students on rolls was 184.4 and the net cost per student Rs. 918, the increase in the net cost per student as compared with previous years being due to the fall in the number of students. One other reason for the increase in the charges is the inclusion of a non-recurring expenditure of Rs. 7,300 towards the purchase of tents for the institution of the project course.

The supply of electrical energy to the King Institute and Government House on a large scale began in the month of October 1925 and we have received a receipt of Rs. 7,600 during the year. It is hoped that during the next year we shall be getting a larger amount in return.

These figures are subject to modification when particulars of further adjustments, if any, are communicated by the Accountant-General.

27. *Service Books.*—The service books of non-gazetted officers have been brought up to 31st March 1926 and verified.

28. *General.*—I must here record my acknowledgment to the members of staff who heartily co-operated towards the smooth working of the college and the hostel.

APPENDIX A.

Class.	Europeans and Eurasians.	Indian Christians.	Muham-madans.	Hindus.				Total.
				Brahmans.	Non-Brahmans.	Adi-Dravidas.	Others.	
Engineer class	5	15	14	76	40	..	..	150
Upper Subordinate class	1	4	..	17	12	..	..	34
Total	6	19	14	93	52	..	..	184

APPENDIX B.

Districts.	Engineer classes.	Upper Subordinate classes.	Total.	Districts.	Engineer classes.	Upper Subordinate classes.	Total.
Ganjam	..	1	1	Ramnad	..	1	1
Vizagapatam	1	1	2	Tinnevely	..	2	11
Godavari	3	2	5	Salem	..	1	1
Kistna	3	1	4	Coimbatore	..	1	1
Guntur	6	1	7	Malabar	12	4	16
Anantapur	1	..	1	South Kanara	9	..	9
Nellore	4	..	4	Pudukottah	..	1	1
Bellary	2	1	3	Cochin	9	..	9
Madras	7	1	8	Travancore	19	3	22
Chingleput	4	..	4	Bangalore	1	..	1
North Arcot	7	1	8	Mysore	3	..	3
Chittoor	3	..	3	Hyderabad	13	..	13
South Arcot	2	1	3				
Tanjore	18	7	25	Total	150	34	184
Trichinopoly	10	6	16				
Madura	2	..	2				

APPENDIX C.

Class.	Wealth.			Total.	Occupation.							
	Richer classes.	Middle classes.	Poorer classes.		Officials.	Petty officials.	Traders.	Land holders.	Artisans.	Mendicants.	Others.	Total.
Engineer class, 4th year division.	1	39	3	43	25	2	2	12	2	..	..	43
Engineer class, 3rd year division.	3	17	3	23	15	..	2	6	..	..	..	23
Engineer class, 2nd year division.	1	33	2	36	23	2	2	9	..	..	..	36
Engineer class, 1st year division.	6	39	3	48	30	1	4	12	1	..	..	48
Upper Subordinate class, 2nd year division.	..	18	1	19	3	2	1	13	..	..	..	19
Upper Subordinate class, 1st year division.	..	10	5	15	3	2	..	10	..	..	..	15
Total	11	156	17	184	99	9	11	62	3	..	..	184

APPENDIX D.

Percentage of marks gained in the Session 1924-25.

Engineer class—Fourth year division.

Civil—							
Branch I. Mathematics and Science	..	..	..	..	..	..	62.0
„ II. Engineering	..	..	..	..	..	..	66.6
Physical exercises	..	..	..	..	..	..	57.2
Average	..	..	..	..	..	..	65.2

Mechanical—

Branch I. Mathematics and Science	..	..	..	..	..	..	58.9
„ II. Engineering	..	..	..	..	..	..	63.5
Physical exercises	..	..	..	..	..	..	56.0
Average	..	..	..	..	..	..	62.3

Engineer class—Third year division.

Civil—							
Branch I. Mathematics and Science	..	..	..	..	..	..	56.2
„ II. Engineering	..	..	..	..	..	..	63.6
Physical exercises	..	..	..	..	..	..	55.0
Average	..	..	..	..	..	..	60.6

Mechanical—

Branch I. Mathematics and Science	..	..	..	..	..	..	55.1
„ II. Engineering	..	..	..	..	..	..	62.2
Physical exercises	..	..	..	..	..	..	53.4
Average	..	..	..	..	..	..	59.8

Engineer class—Second year division.

Branch I. Mathematics and Science	..	..	..	..	..	..	53.0
„ II. Engineering	..	..	..	..	..	..	61.8
Physical exercises	..	..	..	..	..	..	61.3
Average	..	..	..	..	..	..	58.2

Engineer class—First year division.

Branch I. Mathematics and Science	..	..	..	..	..	..	53.5
„ II. Engineering	..	..	..	..	..	..	57.0
Physical exercises	..	..	..	..	..	..	56.2
Average	..	..	..	..	..	..	56.4

Upper Subordinate class—Second year division.

Branch I. Mathematics	..	..	..	..	..	..	58.6
„ II. Engineering	..	..	..	..	..	..	60.7
Physical exercises	..	..	..	..	..	..	51.8
Average	..	..	..	..	..	..	59.9

Upper Subordinate class—First year division.

Branch I. Mathematics	..	..	..	..	..	..	74.0
„ II. Engineering	..	..	..	..	..	..	60.4
Physical exercises	..	..	..	..	..	..	69.3
Average	..	..	..	..	..	..	65.6

APPENDIX E.

Class.	Average number on rolls.	Average daily attendance.
Engineer class, Fourth year division	43.0	40.9
„ Third	23.0	22.2
„ Second	36.7	34.2
„ First	47.8	45.4
Upper Subordinate class—Second year division	18.9	17.7
„ First division	15.0	14.5
Total	184.4	174.9

Percentage of numbers present to number on rolls 94.8

APPENDIX F.

Classification of vacancies notified during 1925-26.

	Government.				Local Boards and Municipalities.				Railways.				Native States.				Private Employees.				Total.
	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	
Engineers and Assistant Engineers	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Mechanical Engineers	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	5
Supervisors	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Overseers	..	..	5	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	7
Sub-overseers	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..	3
Draftsman	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13
Tracers	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Surveyors	..	..	1	1	..	..	2	..	1	..	..	..	..	..	..	..	1	..	..	..	6
Total	2	4	10	10	..	..	5	..	1	..	..	..	1	..	..	..	1	1	1	..	26

APPENDIX G.

FINANCIAL DETAILS FOR 1925-26.

Receipts.

	RS.	A.	P.
Tuition, registration fees and fines	25,448	15	0
Hostel room rent	6,437	10	8
Miscellaneous receipts	1,117	7	10
Receipts on account of electric current supply	7,636	0	0
Workshop receipts	111	0	0
Total	40,751	1	6

Charges.

	RS.	A.	P.
Principal and Professors, in non-voted service	45,238	11	0
Professors and instructors in voted service	38,963	15	0
Pay of establishment, masters and assistant instructors, etc.	62,228	8	0
Travelling allowance	2,348	5	0
Government scholarships	5,176	15	0
Library books, medals and prizes	998	7	0
Pay of menials	663	8	1
Telephone charges	1,201	8	10
Survey camp charges	540	0	6
Irrigation tour and local inspection charges	2,122	12	9
Project course expenses and purchase of tents	7,871	9	6
Workshop premium	250	0	0
Printing of maps	299	13	10
Office expenses, pay of gardeners and other menials and other miscellaneous charges	4,731	3	1
Repairs	797	6	5
Customs duty	624	13	0
Laboratory charges	4,779	3	0
Workshop and Power House charges including hospital charges	31,142	14	9
Total ..	2,09,979	0	9
Net cost to Government	1,69,227	15	3
Average number of students on rolls 184.4			
Net cost per student	917	11	0
Average tuition fee paid by student per annum	138	0	0

R.O.P. No. 13-A-13/26-27, dated 26th May 1926.

Recorded.

- The number on the rolls of the college excluding those on practical courses decreased from 250 in 1924-25 to 184 in 1925-26.
- The percentage of passes in the University examination compares favourably with that of the previous year.
- The administration of the college continued to be satisfactory.
- Shortly after the close of the year under review, information was received of the death of Mr. C. L. Cartwright, the permanent Principal, while on leave. By this, the department and the college have sustained the loss of a devoted and efficient officer.

R. G. GRIEVE,
Acting Director of Public Instruction.

To the Principal, College of Engineering, Guindy.

Copy to the Principals of other Government Colleges.

- all District Educational Officers.
- the Superintendent, School of Arts, Madras.
- the Schools of Engineering, Vizagapatam and Trichinopoly.
- the Director of Industries, for information.
- the Chief Engineer, Public Works Department, for information.
- the Commissioner, Corporation of Madras.
- the President, Board of Visitors of the College (through the Principal).
- the Directors of Public Instruction of other Provinces.
- Government, with covering letter.

Order—No. 1559, Law and Education, dated 17th August 1926.

Recorded.

(By order of the Government, Ministry of Education)

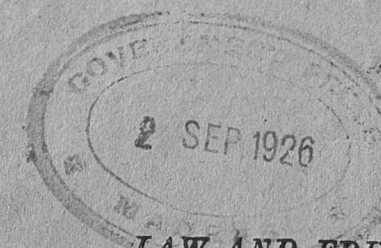
V. T. KRISHNAMA ACHARIYAR,
Secretary to Government.

To the Director of Public Instruction.

- Public Works and Labour Department.
- Accountant-General.

Editors' Table.

FORT SAINT GEORGE



LAW AND EDUCATION DEPARTMENT

(Copy)

LETTER to the Under Secretary of State for India

No. 1560, dated 17th August 1926

(Booklet wanted)

See page

Engineering - Guindy - Annual report - 1925-26 -

- Proceedings of the Govt. recording - forwarded to the Under Secretary of State for India.

No. 1560, LAW AND EDUCATION, 17TH AUGUST 1926

LAW AND EDUCATION DEPARTMENT

Letter—to

THE UNDER SECRETARY OF STATE FOR INDIA,

LONDON.

SIR,

With reference to the instructions conveyed in Lord Harrington'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, Guindy, during the academic year 1925-26.

I have the honour to be,

Sir,

Your most obedient servant,

V. T. KRISHNAMA ACHARIYAR,

Secretary to Government.

FORT ST. GEORGE,
17th August 1926.

16
FORT SAINT GEORGE

LAW AND EDUCATION DEPARTMENT

LETTER to the Under Secretary of State for India

No. 1560, dated 17th August 1926

COLLEGE—Engineering—Guindy—Annual report—1925-26—Proceedings of the
Government recording — forwarded to the Under Secretary of State for India.

LAW AND EDUCATION DEPARTMENT

LETTER—to

THE UNDER SECRETARY OF STATE FOR INDIA,
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I have the honour to be,

Sir,

Your most obedient servant,

Secretary to Government.

FORT ST. GEORGE,
17th August 1926.

Law (Education)

DEPARTMENT.

18

Received 192 Registered 192



*1. En 24636
3/8/26*

College Engineering, Guindy - Annual report 1925-26 -
submitting.

ENCLOSURES.

No.

Spare copies

R.O.P..

No. 13 A 13/26-27

28

Station Madras, Dated the 30th July 1926. 192

From (Name) R.G. Grieve, Esq., M.A., F.R.G.S.,
(Designation) Ag. Director of Public Instruction.

To The Secretary to the Government of Madras,

Law (Education)

Department.

Sir.

I have the honour to submit herewith for the information of Government a copy of my Proceedings R.O.P.No. 13 A 13 of 1926-27 dated 26th May 1926, reviewing the annual report on the working of the College of Engineering, Guindy during 1925-26

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

Z R Anudharan

for Director of Public Instruction

P.V.S. 31/7
238

388g?

Second year division.—The strength of this class was 26 inclusive of the three Electrical Scholarship holders. All appeared and passed the sessional examination with the exception of three. Two of those who failed rejoined the same class and one left the college. Of those who passed, 14 joined the civil branch and 9 the mechanical branch.

First year division.—All the 35 students of this class passed on in accordance with the college rules to the second year of the course.

Upper Subordinate class—Senior division.—There were 89 students in this class and all with the exception of one passed the final examination, 9 with honours. The failed student was permitted to rejoin the same class.

Junior division.—Eighteen students constituting this class appeared for the sessional examination and passed.

Probationary Subordinate Classes—Second year division of the Schools of Engineering, Trichinopoly and Vizagapatam.—A common examination for the above classes was held this year and 17 from Trichinopoly and 15 from Vizagapatam appeared. Of whom 11 of the former school and 5 of the latter were promoted to the Upper Subordinate course of the college.

6. Result of the University Examinations, 1925—

Nature of examination.	Number appeared according to the years of study.					Number passed according to years of study.					Number passed according to branch of study.		
	Ex-students.	Fourth year of study.	Third year of study.	Second year of study.	Total.	Ex-students.	Fourth year of study.	Third year of study.	Second year of study.	Total.	Civil.	Mechanical.	Total.
B.E.	16	23	..	..	39	6	22	..	..	28	12	16	28
F.E.	7	15	31	25	78	2	7	11	9	29	..	..	..

7. Practical course.—Forty-one Engineer (19 civil and 22 * mechanical) and 87 † Upper Subordinate students commenced the usual course of practical training about the beginning of July last.

The distribution list showing the various works and workshops they joined for the training is given in the following statement :—

Name of works.	Civil Engineers.	Mechanical Engineers.	Upper Subordinates.	Total.
Public Works divisions	6	..	82	88
Public Works Workshops, Madras	9	10	..	19
Do. Dowlaishwaram	1	..	..	1
Public Works Department, Travancore	2	1	..	3
Do. Hyderabad	1	..	..	1
Kurnool District Board	..	..	1	1
Cochin State	..	..	1	1
Madras and Southern Mahratta Railway Works	..	..	2	2
Do. Workshops	..	3	..	3
South Indian Railway Workshops	..	1	..	1
Bengal-Nagpur Railway Workshops	..	1	..	1
Tata Power Supply Company, Bombay	..	2	..	2
Cordite Factory, Aravangadu	..	1	..	1
Generating Station, Sivasamudram	..	1	..	1
Madras Harbour Works	..	2	..	2
	19	22	86	127

* Includes one who passed out in 1924 and joined for practical course this year.

† Excludes two students who did not join for the course this year.

8. Tata scholars class.—At the request of the Director, Indian Institute of Science, Bangalore, Government sanctioned a scheme for giving in the college a year's preliminary training in Mechanical Engineering and Workshop practice to students selected for admission to the Department of Electrical Technology of that Institute. Three students were deputed this year and they underwent and completed satisfactorily the courses prescribed for them.

9. Visits to works.—In the beginning of September 1925 three parties of students proceeded on a tour of inspection. The first party consisting of the students of E.I. Civil were under the charge of the Acting Professor of Civil Engineering, M.R.Ry. N. Durairaja Ayyar Avargal assisted by an Assistant Instructor. They inspected the pumping station and other connected works at Divi, the Rynes Regulator, Orris Reservoir, Kistna Anicut, the Eastern and Western Delta Head Works, the Railway bridge over Kistna and water-works at Bezvada and also witnessed a demonstration of the working of Pneumatic Drill and the 6 feet shutters which were newly fitted over the Kistna Anicut. They then inspected the Anicut, Eastern Delta Headworks and the Railway bridge over Godavari at Dowlaishwaram and proceeded to Butchi where they were shown the Kannigiri Reservoir, the Eastern and Southern channel Head Sluices together with the Surplus escapes. Going thence to Sangam they visited the Anicut head sluices for Kannigiri main canal, Duvvur branch channel, Nellore tank supply channel and other masonry works, etc., on the right and left banks of Pennar river. The party finished at Nellore with the inspection of Nellore anicut with its head works and main canals the Nellore tank with its sluices and its distributory system, Nellore water-works, etc., and returned to Madras on the 17th September 1925.

The second party consisting of the students of E.II.C. and U.S.I. accompanied by two Assistant Instructors inspected all the irrigation works mentioned above around Sangam and Kistna deltas and the third party consisting of E. III. and U.S.II. students were taken round the works around Sangam Delta.

At the same time the students of the fourth year Mechanical Engineer classes were taken by Mr. P. Subba Rao, acting Professor of Electrical Engineering, assisted by the Instructor in Electrical Engineering, on a tour of inspection of the Tata Hydro-electric Works around Khandala in Bombay Presidency and similar works in the Mysore State and at Kolar. The party left Madras on 3rd September and arrived at Khandala on the next day. The principal works visited there are :—Pipelines, forebay, Valvehouse, Duct up to Lonavla lake, Lakes Lonavla and Sherwata, and the Power House at Khopoli and the works at Forebay, etc. In the Mysore State, the party inspected the Mysore Iron Works at Badravati including the Saw Mill, the Receiving Station, the Kaisari Hind Woollen Mills, Sandalwood Oil factory and the Indian Institute of Science at Bangalore and the Surface plant at Nandidroog mines and underground works at the Champion Reef of the Kolar Goldfields.

The total number of students who took part in these tours of inspection were 135 and the total expenditure Rs. 1,812-1-0.

During the session visits were paid as usual to all important local engineering works.

10. Project course.—The Project course for the final year Civil Engineer students was introduced for the first time in the history of this college during this year. Though the sanction of Government was received only in December, the course was arranged for in January. As these students had yet to have practice in Theodolite work also the camp period was divided between survey work and project course. The project set for the year was the design of a first class trunk road bridge on the Palar in the Southern Trunk Road near Chingleput. The class was divided into two batches and each batch was given about ten days for field work. They commenced office work on the 26th January and submitted their drawings and papers on the 8th February.

As regards their work the Professor in charge Mr. N. Durairaja Ayyar reports as follows.

“The level books and diaries submitted by them show that they have methodically arranged their work, reconnoitred the site carefully and maintained their field books properly. Details of the Railway bridge on the Palar, a few miles below the present causeway have been recorded by them so far as they could be gathered by inspection. As regards the selection of the site all of them have chosen the site of the causeway itself with the idea of using the causeway as a floor for the bridge; this, however, is not quite right as needless expense has to be incurred for forming a diversion track, to accommodate the traffic during the period of construction.

"As regards the design, girder bridge has been estimated for by everyone and three students submitted an alternative design, for an arched bridge. The alternative design could not be worked out fully for want of time.

"As regards the work turned out, it is on the whole creditable to the students. The economic span has been discussed and worked out by practically every one, though of course, various estimates of the cost of a pier have been made, owing to the uncertainty in the cost of sinking wells. The spans adopted varied from 60 feet to 120 feet. The design of the trusses, the several members composing it, the cross girders and decking has been fully dealt with by all the students. In the case of foundations nearly every one has adopted the right view of sinking the wells to the level of hard clay; excepting one who has adopted an octagonal well, all the others have adopted the circular type of wells. Detailed drawings of curbs have not been made out by most of them and the sinking effort required has not been discussed by any one. Pressure calculations for the various parts such as abutments, wing walls and pier have been made out by all. The provision of a flooring has been omitted by all with the idea of utilizing the causeway as a flooring. A flooring is however unnecessary when as in this case the foundations are taken down to 16 feet below the bed, on the average, to hard black clay and in fact a floor is an obstruction to the inevitable expansion of the waterway during floods."

In this connexion our thanks are due to the District Board Engineer, Chingleput and the District Board Assistant Engineer at Chingleput, who were very helpful in arranging for the project course at short notice and by finding accommodation for the students and taking care of the instruments and arranging for coolies, etc.

11. Survey camp.—The various classes worked as under—

Class.	Strength.	Squads.	Guindy.	Pallavaram and Chingleput.	Nature of work.
E.I.C.	31	10	January	4-20	Curves, Tacheometry, triangulation, project course.
E.II.C.	14	4	18-22	4-16	Curves, triangulation, traversing.
E.III.	37	12	4-22		Levelling, cross sections, etc. Hill contouring at Pallavaram, 3 days.
E.IV.	48	16	4-22		Chain, compass, plane table.
U.S.I.	19	6	18-22	4-16	Triangulation, curves, etc., traverse.
U.S.II.	15	4	4-22		Cross sections, fly levels, hill contouring at Pallavaram, 2 days.

The students were accommodated in barracks at Pallavaram, but made their own arrangements for boarding.

The military authorities were pleased to place the barracks at Pallavaram again at our disposal during survey camp. They also lent us a handpump for raising water from the wells.

The cost of Survey camp is Rs. 510 and of Project course Rs. 550.

12. Power house.—The supply of power was satisfactory during the year and there were no breakdowns which interfered with the power supply. The Petter Engine supplied the bulk of the power during the first half of the year while the gas engine took all the line load since it was installed. The Campbell set took the morning load when the running of College workshops required a large amount of alternating current.

The erection of the Gas Engine and Producer was completed during the year and brought into use from the 1st September 1925. The works done in this connexion consisted of providing a charging platform, a ladder for workmen to go up to the charging platform, a jib for hauling up the fuel from below to the platform, and some alterations to the roof. It also included the installation of an Electric motor to drive the Ear Extractor.

A new cylinder head was received for the Campbell Engine and fitted. The engine continued to give trouble and it was found on careful measurement that No. 2 Piston was too large by a few thousands of an inch and this was causing undue

friction and heating up. This was remedied by grinding down the piston, but No. 3 cylinder now gave trouble which was also successfully got over. The engine has now been running on all the four cylinders for over five months developing about 60 H.P. and its performance has been generally satisfactory. The engine could not be run on full load for want of a Direct Current generator of sufficient power. It will improve the economy of the plant and the flexibility of the station if the present 16 K.W. generator is replaced by one of 50 K.W. 440-460 Volts—113-108-Amps. This will enable us to take our peak load with only one Engine, and permit of this Engine being run at or near its full capacity nearly all the time, thereby effecting economy in running expenses. The existing 16 K.W. generator will then be run from the Experimental Steam Engine and will be a valuable standby for breakdowns.

The Cable Tower was shifted from its position close to the Power house to a place clear of the building and the lines were changed over. An oil storage well to take about five tons of liquid fuel has now been built so as to enable oil being used with minimum of handling and wastage. The distilled water-boiler room has been permanently roofed and fenced.

In addition to fitting and bringing into use the Gas Engine and the Campbell Engines the Petter Engine was thoroughly overhauled and it is now running quite satisfactorily. A number of meters on the switchboard were readjusted connected up to circuits and brought into use during the year. The Power House was entrusted with the work of the cleaning the Gas tank laying the gas and water mains to Physics and Geological laboratories and completing the dark room by fitting panelled shutters and labyrinth ventilators. These were done.

The students under practical course had their two months' training in the practical running and operation of the power plant and generators in the power house and they took very keen interest in this part of their practical course and readily undertook any manual work they were given.

13. Electrical Engineering Laboratory.—The fixing of cable racks inside the trenches is nearing completion and during the course of the year the cables will be permanently fixed. Copper Bus bars have been purchased and the work of fixing them behind Alternating and Direct Current panels is progressing. A number of heavy pattern knife switches have been made in our workshops and fixed to the panels. A portable adjustable load for D.C. machines is also made in the workshops.

The fitting up of the workshop attached to the laboratory is completed, a D.C. motor driving the shafting by means of a chain.

Experimental work of students in both A.C. and D.C. engineering was satisfactory.

14. Mechanical Engineering Laboratory.—The equipment of this laboratory is practically the same as before, with the exception of a few auxiliary apparatus such as a Pyrometer for ascertaining furnace and flue gas temperatures, a water meter for measuring boiler feed a few hydrometers for testing the specific gravity of oils, etc. and it has not been possible to arrange for individual work by students. A course of Laboratory practice was also arranged for the E. II. Class during the year. The following are among the more important investigations made by the students.

(1) Checking of the parts of a Babcox and Wilcox Boiler and making drawings of the feed pump.

(2) Dismantling and reassembling including valve setting of the one H. P. Marine type Engine, six H.P. Hornsby Oil Engine, six H.P. Crossley Gas Engine, and the Meyers expansion valve gear of the ten N.H.P. Experimental Steam Engine.

(3) Determining the calorific values of solid and gaseous fuels with the aid of the bomb, Rosenhiem and the Simmon's Abady Gas Calorimeters.

(4) Calibrating pressure and vacuum gauge with the aid of the Crossby dead weight tester and Bailey's Vacuum Gauge tester respectively.

(5) Complete efficiency tests on the Hornsby Oil Engine.

(6) Evaporation tests on the Babcox boilers.

(7) Steam Engine tests on the Experimental Steam Engine.

15. *Strength of materials Laboratory.*—During the year the following machines were repaired in the laboratory and brought into use for class work.

(a) Captain Sankey's metal bending tester.

(b) Bailey's wire tester.

A foster strain meter and a micrometer microscope were added to the equipment of strain measuring instruments.

In addition to the usual tests for tension, compression, shear bending, impact and hardness, tests for reverse bending tensile, compressive strength of mortars of cement, lime and surki in various proportions of the constituents and conditions and sleeper tests for timbers were carried out by the students.

Tests were undertaken as usual on behalf of Public Works Department and other local departments. Special mention may be made of the progress in the preliminary tests of timbers arranged for with the Forest Research Institute, Dehra Dun. Two specimens were tested for sleepers and the results were sent to Dehra Dun. The results were considered quite satisfactory though we had to improvise our own measuring instruments.

In addition to the sleeper tests for the Indian Forest Department particular tests for the local Forest Department are, at their request, proposed to be carried out, to find the suitability of timbers for building purposes speedily instead of waiting for Dehra Dun results which generally take a long period and may not cover all the species. The Forest Department have agreed to get an additional assistant on about Rs. 50 to help the college assistant in carrying out tests for them.

In view of the experimental work on timbers to be done it would be of great advantage to purchase a small handy testing machine to test up to about 10 tons only.

16. *Hydraulic Engineering Laboratory.*—The allotment for the complete fitting up has not yet been made but with the various small sums provided from college funds a certain amount of work has been done so that some experiments can be carried out. The construction of the parapet wall to the outside discharge tank has been completed by the Public Works Department.

Suction and delivery pipes for the 8 inches centrifugal pump have been fitted as also connexion to the Overhead tank and to the Francis turbine. Underground drains with manholes for returning the used up water to the outside discharge tank has also been completed.

Pipes have also been fitted for the 3 inches pump and connected to the accumulator and the Pelton Wheel.

A small Cylindrical tank and a trough from the old college were temporarily fitted up for Orifice and Notch experiments respectively.

17. *Science Laboratory.*—During the year under review the equipment of the laboratories in the Science Department has been considerably improved by extending the gas and water connexions to Physical and Geological sections and by fresh additions to the apparatus. Increased facilities for carrying out experiments in Heat and Light have been effected in the Physical laboratory. The long felt need for equipping the Chemical laboratory with an additional students' working table for which provision has been made in the original plan of the building has also been satisfied. Consequently the work turned over in all the sections of this department has been much more systematic and complete.

18. *Workshops.*—The Workshop Instructor reports that improvement was noticeable in the work of students in the workshops. No new machines were added during the year.

19. *Hostel.*—The Hostel Committee consisting of three Professors continued to work during the year under report. The appointment of Block Superintendents with free quarters was abolished and two were nominated from among the three Block Superintendents on a monthly allowance of Rs. 50 in lieu of free quarters with effect from 1st August 1925. Messrs. J. Webster and M. Sanjeeva Rao are the Deputy Wardens thus appointed.

The strength of the hostel was 200 inclusive of some of the members of staff and practical course students and they were distributed to the various sections as follows :—

Anglo-Indian	8
Muslim	15
Non-Brahman—non-vegetarian	49
Non-Brahman-vegetarian	16
Brahmans	112
Total	200

The average monthly boarding charges worked out as under :—

	RS.	A.	P.
Anglo-Indian section	30	0	9
Muslim	20	13	2
Non-vegetarian	20	2	6
Vegetarian	17	3	6

20. *Hospital.*—Mr. A. Govindakutti Nayar, Sub-Assistant Surgeon, was in charge of the hospital during the first half of the year. On his transfer Mr. C. Narayana Menon was posted as Sub-Assistant Surgeon of this college. There was no outbreak of any epidemic during the year except a case of smallpox. Two cases of enteric fever were sent to the General Hospital for treatment.

The total number of cases (inpatients and outpatients) treated during the year was 2,316 with an average daily attendance of about 14.82. The most common complaints were those relating to the digestive system, skin diseases, disease of intestines, local and general injuries, etc. The District Medical Officer, Chingleput, made the usual annual inspection. The general health of the students has been satisfactory.

21. *Athletic Club.*—The Madras Collegiate Athletic Association has again started Inter-Collegiate sports and games but rather late in the year. The College has not won Hockey or Cricket this year, and in football we stand second so far. Our players are still not up to the standard in Tennis though they take keen interest.

The College sports were held this year in connexion with the celebration of the College Day when the Hon'ble Sir C. P. Ramaswami Ayyar, Kt., C.I.E., presided. His Excellency Lord Willingdon prize for the best athlete was this year won by S. C. Nayak of E. IV class. The tug-of-war between staff and students was a new item and attracted some attention, the students being the victors.

22. *University Training Corps.*—Dr. K. C. Chakko reports :—“During the last summer holidays the usual camp was again held at Bangalore. The attendance of students from this college was below the average.

“There were about 16 vacancies at the beginning of the year which were filled up by students from E. III and E. IV without much difficulty. These recruits have been very eager to get their military training and they passed out in elementary squad drill and arms drill in record time.

“The disabilities of the members of the University Training Corps in this college continued to be serious for the greater part of the year and possibly owing to this, there was a marked decline in the enthusiasm of the trained men. Added to the difficulties of conveyance was also the disadvantage of constant changes in the headquarters Instructional staff. Selected men of the College University Training Corps took part in the Naval and Military and Air Force tournament, they lined the streets for His Excellency the Governor on the occasion of the Convocation and kept order on the grounds for College Day. Owing to difficulty of getting rifles for arms drill practice two week-end camps were held for training in the college compound.

“The College men did not show up well in inter-company competitions this year. The introduction of busses into Saidapet and the arrangement made by headquarters recently for bringing rifles for practice wherever there is need makes us hope that the Engineering College men will be able in coming years to win back the name which they had for smartness in drill and also shine in firing and arms drill which by their training as Engineers and surveyors should specially suit them.”

22-A. *Employment of Passed Students.*—Of the 47 Engineer students who completed the practical course in 1925 the senior students of the civil and mechanical branches were appointed as Probationary Assistant Executive Engineers, Public Works Department and 26 others have secured appointment as follows:—

Temporary Supervisors, Public Works Department	14
Probationary Assistant Engineers, His Exalted Highness the Nizam's Public Works Department	2
Temporary Laboratory Assistants, College of Engineering, Guindy ..	2
Temporary Electrician, Electrical Department, Public Works Department	1
Stress Calculator, Bridge section, Madras and Southern Mahratta Railway	1
Temporary Sub-Inspector of works (Bridgeworks), South Indian Railway	1
Mechanical draftsman, Signal and Interlocking section, South Indian Railway	1
Temporary Electrical Overseer, Madras Port Trust	1
Temporary Electrical Draftsman, Madras Port Trust	1
Temporary Assistant Engineer, Malabar District Board	1
Assistant, The Tata Engineering Co., Ltd., Bombay	1

Sixty four Upper Subordinates completed the practical course. Reports have been received of 31 of them having secured employment as under:—

Temporary Overseer, Public Works Department	3
Do. Draftsman, Public Works Department	2
Do. Surveyor	1
Do. Local Fund Overseers	6
Do. Local Fund Sub-Overseers	2
Do. Overseer, Madras Corporation	3
Do. Surveyor, Madras Corporation	1
Do. Local Fund Draftsman	2
Public Works Inspector, Madras and Southern Mahratta Railway, Madras	1
Special Works Inspector, Trichinopoly (Junction) Remodelling works, South Indian Railway	1
Sub-Inspector of works, South Indian Railway	1
Temporary Overseer, South Indian Railway	1
Do. Draftsman, South Indian Railway	3
Do. Surveyor, do.	2
Mansion Overseer, Jeypore State	1
Overseer, Andhra Engineering Co.	1

23. *Library.*—During the year under report 72 books were added to the library which now contains 7,305 volumes. The number of books issued to the staff and students was 1,171 and 4,431, respectively and in addition 3,535 books were taken out for reference in the Reading room. The library has been checked and found correct.

24. *Attendance.*—The percentage of attendance to members on the rolls of the college was 94.8. Detailed particulars for the several classes are given in Appendix E.

25. *Casualties.*—I regret I have to record the death on account of fever of an Upper Subordinate student who was undergoing practical course in the Public Works Department.

26. *Financial details.*—These are furnished in Appendix G. The receipts for 1925-26 amounted to Rs. 40,751 and the charges to Rs. 2,09,979 resulting in a net cost to Government of Rs. 1,69,228. The average number of students on rolls was 184.4 and the net cost per student Rs. 918, the increase in the net cost per student as compared with previous years being due to the fall in the number of students. One other reason for the increase in the charges is the inclusion of a non-recurring expenditure of Rs. 7,300 towards the purchase of tents for the institution of the project course.

The supply of electrical energy to the King Institute and Government House on a large scale began in the month of October 1925 and we have received a receipt of Rs. 7,600 during the year. It is hoped that during the next year we shall be getting a larger amount in return.

These figures are subject to modification when particulars of further adjustments, if any, are communicated by the Accountant-General.

27. *Service Books.*—The service books of non-gazetted officers have been brought up to 31st March 1926 and verified.

28. *General.*—I must here record my acknowledgment to the members of staff who heartily co-operated towards the smooth working of the college and the hostel.

APPENDIX A.

Class.	Europeans and Eurasians.	Indian Christians.	Muham-madans.	Hindus.				Total.
				Brahmans.	Non-Brahmans.	Adi-Dravidas.	Others.	
Engineer class	5	15	14	76	40	..	..	150
Upper Subordinate class	1	4	..	17	12	..	..	34
Total	6	19	14	93	52	..	..	184

APPENDIX B.

Districts.	Engineer classes.	Upper Subordinate classes.	Total.	Districts.	Engineer classes.	Upper Subordinate classes.	Total.
Ganjam	..	1	1	Ramnad	..	1	1
Vizagapatam	1	1	2	Tinnevely	9	2	11
Godavari	3	2	5	Salem	1	..	1
Kistna	3	1	4	Coimbatore	1	..	1
Guntur	6	1	7	Malabar	12	4	16
Anantapur	1	..	1	South Kanara	9	..	9
Nellore	4	..	4	Pudukottah	..	1	1
Bellary	2	1	3	Cochin	9	..	9
Madras	7	1	8	Travancore	19	3	22
Chingleput	4	..	4	Bangalore	1	..	1
North Arcot	7	1	8	Mysore	3	..	3
Chittoor	3	..	3	Hyderabad	13	..	13
South Arcot	2	1	3				
Tanjore	18	7	25	Total	150	34	184
Trichinopoly	10	6	16				
Madura	2	..	2				

APPENDIX C.

Class.	Wealth.			Total.	Occupation.							
	Richer classes.	Middle classes.	Poorer classes.		Officials.	Petty officials.	Traders.	Land holders.	Artisans.	Mendicants.	Others.	Total.
Engineer class, 4th year division.	1	39	3	43	25	2	2	12	2	..	..	43
Engineer class, 3rd year division.	3	17	3	23	15	..	2	6	..	..	..	23
Engineer class, 2nd year division.	1	33	2	36	23	2	2	9	..	..	..	36
Engineer class, 1st year division.	6	39	3	48	30	1	4	12	1	..	..	48
Upper Subordinate class, 2nd year division.	..	18	1	19	3	2	1	13	..	..	..	19
Upper Subordinate class, 1st year division.	..	10	5	15	3	2	..	70	..	..	..	15
Total	11	156	17	184	99	9	11	62	3	..	..	184

APPENDIX D.

Percentage of marks gained in the Session 1924-25.

Engineer class—Fourth year division.

Civil—							
Branch I. Mathematics and Science	..	..	..	..	..	62.0	
„ II. Engineering	..	..	..	..	..	66.6	
Physical exercises	..	..	..	..	..	57.2	
Average	..					65.2	

Mechanical—

Branch I. Mathematics and Science	..	..	..	..	..	58.9	
„ II. Engineering	..	..	..	..	..	63.5	
Physical exercises	..	..	..	..	..	56.0	
Average	..					62.3	

Engineer class—Third year division.

Civil—							
Branch I. Mathematics and Science	..	..	..	..	..	56.2	
„ II. Engineering	..	..	..	..	..	63.6	
Physical exercises	..	..	..	..	..	55.0	
Average	..					60.6	

Mechanical—

Branch I. Mathematics and Science	..	..	..	..	..	55.1	
„ II. Engineering	..	..	..	..	..	62.2	
Physical exercises	..	..	..	..	..	53.4	
Average	..					59.8	

Engineer class—Second year division.

Branch I. Mathematics and Science	..	..	..	..	..	53.0	
„ II. Engineering	..	..	..	..	..	61.8	
Physical exercises	..	..	..	..	..	61.3	
Average	..					58.2	

Engineer class—First year division.

Branch I. Mathematics and Science	..	..	..	..	..	53.5	
„ II. Engineering	..	..	..	..	..	57.0	
Physical exercises	..	..	..	..	..	56.2	
Average	..					56.4	

Upper Subordinate class—Second year division.

Branch I. Mathematics	..	..	..	..	..	58.6	
„ II. Engineering	..	..	..	..	..	60.7	
Physical exercises	..	..	..	..	..	51.8	
Average	..					59.9	

Upper Subordinate class—First year division.

Branch I. Mathematics	..	..	..	..	..	74.0	
„ II. Engineering	..	..	..	..	..	60.4	
Physical exercises	..	..	..	..	..	69.3	
Average	..					65.6	

APPENDIX E.

Class.	Average number on rolls.	Average daily attendance.
Engineer class, Fourth year division	43.0	40.9
„ Third „	23.0	22.2
„ Second „	36.7	34.2
„ First „	47.8	45.4
Upper Subordinate class—Second year division ..	18.9	17.7
„ First division	15.0	14.5
Total ..	184.4	174.9

Percentage of numbers present to number on rolls 94.8

APPENDIX F.

Classification of vacancies notified during 1925-26.

	Government.				Local Boards and Municipalities.				Railways.				Native States.				Private Employees.				Total.
	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	Above Rs. 200.	Rs. 100-200.	Rs. 50-100.	Below Rs. 50.	
Engineers and Assistant Engineers.	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Mechanical Engineers	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	5
Supervisors	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Overseers	..	..	5	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	7
Sub-overseers	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..	3
Draftsman	..	..	4	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13
Tracers	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	6
Surveyors	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Total ..	2	4	10	10	..	..	5	..	1	..	..	..	1	..	..	1	1	1	..	..	36

APPENDIX G.

FINANCIAL DETAILS FOR 1925-26.

Receipts.

	RS.	A.	P.
Tuition, registration fees and fines	25,448	15	0
Hostel room rent	6,437	10	8
Miscellaneous receipts	1,117	7	10
Receipts on account of electric current supply	7,636	0	0
Workshop receipts	111	0	0
Total ..	40,751	1	6

Charges.

	Rs.	A.	P.
Principal and Professors, in non-voted service	45,238	11	0
Professors and instructors in voted service	38,963	15	0
Pay of establishment, masters and assistant instructors, etc.	62,228	3	0
Travelling allowance	2,348	5	0
Government scholarships	5,176	15	0
Library books, medals and prizes	998	7	0
Pay of menials	663	8	1
Telephone charges	1,201	3	10
Survey camp charges	540	0	6
Irrigation tour and local inspection charges	2,122	12	9
Project course expenses and purchase of tents	7,871	9	6
Workshop premium	250	0	0
Printing of maps	299	13	10
Office expenses, pay of gardeners and other menials and other miscellaneous charges	4,731	3	1
Repairs	797	6	5
Customs duty	624	13	0
Laboratory charges	4,779	3	0
Workshop and Power House charges including hospital charges	31,142	14	9
Total ..	2,09,979	0	9
Net cost to Government	1,69,227	15	3
Average number of students on rolls .. 1844			
Net cost per student	917	11	0
Average tuition fee paid by student per annum	138	0	0

R.O.P. No. 13 A-13/26-27, dated 26th May 1926.

Recorded.

2. The number on the rolls of the college excluding those on practical courses decreased from 250 in 1924-25 to 184 in 1925-26.
3. The percentage of passes in the University examination compares favourably with that of the previous year.
4. The administration of the college continued to be satisfactory.
5. Shortly after the close of the year under review, information was received of the death of Mr. C. L. Cartwright, the permanent Principal, while on leave. By this, the Department and the college have sustained the loss of a devoted and efficient officer.

R. G. GRIEVE,
Acting Director of Public Instruction.

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

Copy to the Principals of other Government Colleges.

all District Educational Officers,
the Superintendent, School of Arts, Madras.
the Schools of Engineering, Vizagapatam and Trichinopoly.
the Director of Industries for information.
the Chief Engineer, Public Works Department, for information.
the Commissioner, Corporation of Madras.
the President, Board of Visitors of the College, through the Principal.
the Directors of Public Instruction of other Provinces.
Government with covering letter.

TR Summary
for Director of Public Instruction

Scott. II-5 (b)—25,000—**25-11-25.** (6)

Date.	Initials.
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When received for Fair-copying.

When copied

When examined

When signed

When despatched

READ AGAIN G.O. No., dated 192

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READ ALSO :—

C. No. 2463C From the DP-2 RO-P, No. 13A-13 dated 30-7-1926

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ORDER.

No. 1539, dated 17. 8 1926

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E. T.

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To
— The Under Secretary of State
for India, London.

Sir, with reference to the



Deepa
12/20/20
12/20/20

the instructions conveyed in
Lord Harington'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
according to the report on the
working of the College of
Engineering, during
the academic year
1925-26.

I have etc
7.8.26.

9.8.26

V.T.F.
10/8

Note
The last report was
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ORDINARY.

PREFERENCE.

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(26)

DEPARTMENT.

19 AUG 1926

Current No. 24630, dated 3-8-1926

G.O. No. 1539, dated 17-8-1926

Number of MS. pages sent { Correspondence 15 pages
(b) Notes

Brief subject

(c) Number of copies required when struck off (not including copies for volumes and editors' table which are retained in the Press).	E. T. copies to supply requisitions for purchase by the public.	Complete correspondence and orders.	Notes.
FOR RECORD.			
Madras Records	4	10	
Ooty Records		5	
For filing with original		1	
Total		16	
FOR ISSUE.†			
	Letter only.	Complete G.O.	Special issue copies of G.O. (b) No. Papers. Notes.

Signature copies.	1	3		
India Office				
Govt. of India				
Revenue Department				
Public Works Department				
Local and Municipal Department				
Educational Department				
Public Dept.				
Judicial Dept.				
Political				
Financial Dept.				
Marine Dept.				
Ecclesiastical Dept.				
Total				
Spare copies.				
The D.P. I			20	
The H.G.			2	
The P.W.D.			4	
The Revenue			15	
The				
The				
The				
The				
The				
The				
The				
The				
Total			156	

INSTRUCTIONS FOR THE SECRETARIAT.

(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.

(b¹) 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.

INSTRUCTIONS FOR THE PRESS.

(a) If, in the opinion of the Superintendent of the Press, a paper has been marked urgent unnecessarily, he should send the Press slip to the Registrar with a remark to that effect.

(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 in full when they occur on the right hand side, only the first time when they appear on the left side, the initials alone being printed later.

distributed on ... (Press Clerk).
distributed on ... (Press Despatcher).

To be initialled and dated.
SEP 26

TO PRESS, MADRAS, OOTY.

A
Please send proof in duplicate. The papers have been carefully edited.

B
Proof returned corrected. Please strike off and send number of copies as indicated.

As the matter is clear manuscript and 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.
Type may be released after usual interval.

Referencer.
Clerk.

Referencer.
Clerk.

Referencer.
Clerk.

Supt.

Supt.

Supt.

SPECIAL INSTRUCTIONS.

TO BE FILLED IN BY THE PRESS.

Diary.	Initials of Press official.
Received in Press on.....	19/8/26. Ch
First proof furnished on.....	25.7.26. Ch
Call for revised proof received on.....	
Revised proof furnished on.....	
Corrected proof received for striking on.....	
Final copies supplied on.....	

Account of copies.	Complete copies.	Notes.	Issue copies.	Special E.T. edition.
Supplied to Secretariat for Record.....				
" " " Issue.....				
" " " for Extra E.T. copies to supply requisitions for sale to the public.				4
For Volumes.....				
For supply to newspapers and institutions admitted to the privileges of the E.T.				
Total ...				