

Government of Madras

HOME DEPARTMENT (EDUCATION).

G.O. No. 816, ⁷⁷1st July 1919

Report

Recording the — on the working of the College of Engineering, Madras, during 1918-1919.

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READ—the following paper :—

Letter—from the Hon'ble Mr. R. LITTLEHAILES, M.A., Acting Director of Public Instruction.

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

Dated—the 18th June 1919.

No.—R.C. 351c.

I have the honour to submit herewith for the information of Government a copy of my Proceedings R.C. No. 351c, dated 14th June 1919, reviewing the report on the working of the College of Engineering, Madras, during the year 1918-19.

ENCLOSURE.

*Proceedings of the Director of Public Instruction, R.C. No. 351c,
dated 14th June 1919.*

Read—the following paper :—

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

To—the Director of Public Instruction.

Dated—the 12th April 1919.

No.—C. 38 of 19-20.

I have the honour to submit herewith the administration report of the College of Engineering, Madras, for the academic year 1918-19.

2. *Staff*.—Mr. H. W. Barker, Professor of Civil Engineering, was away from the college, undergoing military training from 1st September 1918 to 10th November 1918, and during that time the duties of the appointment were performed by M.R.Ry. K. V. Sankara Ayyar Avargal, Executive Engineer, Public Works Department.

M.R.Ry. K. R. Ramaswami Ayyangar Avargal, Professor of Mathematics, was granted privilege leave on half pay for 19 days from 17th September 1918 in order to serve as a member of a commission appointed by the University for the inspection of colleges in the mufassal.

Mr. W. C. Old, Instructor in Surveying, was promoted to the Indian Educational Service temporarily from 8th July 1918.

M.R.Ry. S. Rajagopalaswami Mudaliyar Avargal, Sub-Engineer and Honorary Assistant Engineer, reverted to the Public Works Department on 9th July 1918, and M.R.Ry. B. M. Viswanatha Ayyar Avargal, Sub-Engineer, Public Works Department, succeeded him on that date as Instructor in Civil Engineering.

Mr. F. N. Mowdawalla, Electrical Engineering Laboratory Assistant, resigned his appointment on 1st December 1918, and his place was taken by M.R.Ry. P. Subba Rao, B.A., a diplomate of the Indian Institute of Science, Bangalore.

M.R.Ry. K. Lakshmana Ayyar, Supervisor, first grade, temporary, Public Works Department, who had been employed in the college for over three years, reverted to the department on the 20th December 1918, on the termination of his duty with the Revenue officers' class.

M.R.Ry. P. V. Krishna Ayyar, overseer, first grade, temporary, and M.R.Ry. A. Mutturama Ayyar, overseer, second grade, temporary, reverted to the Public Works Department on the 23rd June 1918 and 17th June 1918, respectively, and their places as Assistant Instructors in the college were filled by the appointment of M.R.Ry. S. V. Balasubrahmanya Ayyar, temporary Upper Subordinate and M.R.Ry. A. Maria-susai Pillai, overseer, first grade, who joined duty on the 16th July 1918 and 8th July 1918 respectively.

M.R.Ry. K. Somaskantha Ayyar, overseer, first grade, temporary, Public Works Department, and Assistant Instructor, I regret to report, died suddenly on 30th May 1918. He was succeeded by M.R.Ry. P. S. Venkatarama Ayyar, overseer, first grade, who joined duty on the 8th July 1918.

M.R.Ry. S. A. Sambasivam Pillai, overseer, first grade, temporary, who was posted to the college on the 8th October 1918 in connexion with the Revenue Officers' class was retained in the college permanently when the work of the class was over, M.R.Ry. K. Lakshmana Ayyar having returned to the Public Works Department in place of this subordinate.

Mr. A. H. Gilks, Workshop Instructor, met with a severe accident in the workshop on 23rd August 1918, as a result of which he was an in-patient for three months at the General Hospital for which period he was granted leave on half pay.

M.R.Ry. R. Tirumurti Rao (sub. *pro tem.*), Assistant Instructor in Science, was promoted to Rs. 100 in the cadre of Sub-Assistant Inspectors of Schools with effect from the 20th June 1918, without prejudice to his acting appointment in this college.

M.R.Ry. S. Krishnaswami Ayyar, Assistant Instructor in Mathematics, was on privilege leave on half pay from 10th October to 18th November 1918 inclusive.

M.R.Ry. R. Subrahmanya Ayyar, overseer, second grade, was granted privilege leave on urgent private affairs on full pay for fifteen days from 2nd August 1918.

M.R.Ry. D. N. Somayajulu, overseer, first grade, temporary, was on privilege leave on full pay from the 26th October to 10th November 1918 on account of illness.

M.R.Ry. N. K. Gopala Ayyangar, overseer, second grade, was granted special casual leave from 2nd to 15th October 1918 to enable him to undergo antirabic treatment at the Pasteur Institute, Coonoor.

S. N. Subrahmanya Ayyar, Acting Gymnastic Instructor, was on privilege leave on half pay on account of illness for fifteen days from the 27th January 1919.

The sanction of four temporary assistants for the college was renewed till the 1st July 1919.

M.R.Ry. N. Ramanuja Acharya, Accountant, was given a personal allowance of Rs. 16 per mensem with effect from 11th October 1918.

M.R.Ry. K. V. Kunhi Raman, head clerk, was transferred as a clerk in the office of the Director of Public Instruction on the 13th July 1918, and in his place M.R.Ry. A. Gopala Acharya, head clerk, office of the Assistant Inspector of Schools, Chingleput district, acted as head clerk up to 11th September and since then the appointment has been filled, sub. *pro tem.*, by M.R.Ry. G. C. Duraiswami Ayyangar, the College Librarian and Storekeeper.

M.R.Ry. T. V. Kuppuswami Mudaliyar, Workshop clerk, has been appointed to act as Librarian from 12th September 1918. He was on privilege leave on full pay for one month from the 20th November 1918.

M.R.Ry. G. C. Duraiswami Ayyangar, Librarian and Storekeeper, was on combined leave for three months from the 16th May 1918.

P. Joseph Chellayya, who holds a Secondary School-leaving Certificate, was appointed to act as sub. *pro tem.* Workshop clerk, with effect from the 18th September 1918.

A. Ramachandra Rao, first Assistant clerk, was transferred on the 8th July 1918, as sub. *pro tem.* head clerk, School of Engineering, Vizagapatam, and the following are the consequent acting arrangements sanctioned—T. V. Kuppuswami Mudaliyar, Workshop clerk, acted as first Assistant clerk from the 16th August to the 11th September 1918. M. Lakshmana Ayyar, sub. *pro tem.* clerk, office of the Superintendent of Sanskrit schools, acted from the 7th November 1918 to 5th March 1919, and C. Ananta Acharya, clerk, office of the Inspector of European and Training schools, has been acting from the 6th March 1919.

P. Subrahmanya Ayyar, typist, accepted a temporary typist's place on Rs. 35 per month in the office of the Director of Civil Supplies on the 6th October 1918 and R. Shama Rao acted for him from the above date to the 10th February 1919, and from 11th, S. H. Moin-ud-din has been holding the appointment. P. Subrahmanya Ayyar was on privilege leave for one month from the 16th August 1918.

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

Class.	Practical course.	In college.				
		Fourth year.	Third year.	Second year.	First year.	Total.
Engineer class	29	23	35	* 29	* 31	140
Upper Subordinate class	41	..	..	39	42	122
Lower do.	..	..	..	..	73	73
Probationary Subordinate class	..	..	..	187	104	241
Total	63	23	35	205	250	576

* Three in each year are holders of electrical engineering scholarships.

Excluding the students on practical course, the total number actually in the college on the 31st March 1919 was 513.

The corresponding totals for the last five years were—

Year.	Number.
1917-18	526
1916-17	511
1915-16	491
1914-15	429
1913-14	380

The distribution of students by classes of community, districts, wealth and occupation of parents or guardians is given in appendices A, B and C. Of the total number, 71.2 per cent were Brahmans, 20.2 per cent non-Brahman Hindus, 6.3 per cent Indian Christians, 1.3 per cent Europeans and Anglo-Indians and about 1 per cent Muhammadans.

As regards districts, Tanjore was represented by 18.6 per cent, Gōdāvari 8.3 per cent, Tinnevely 7.7 per cent, Kistna 7.1 per cent, Malabar 6.6 per cent, Trichinopoly 5.8 per cent, Madras 4.8 per cent, Chingleput 4.6 per cent, North Arcot 3.9 per cent, South Kanara 3.5 per cent, Guntūr and Madura 3.1 per cent each, Travancore 2.9 per cent, Ganjām 2.7 per cent, South Arcot and Coimbatore 2.5 per cent each, Chittoor 1.7 per cent, Nellore and Cochin 1.5 per cent each, Vizagapatam and Mysore 1.4 per cent each, Ramnad and Salem 1.2 per cent each, Cuddapah 0.3 per cent, Kurnool, Pudukkōttai and Ceylon 0.6 per cent each, Hyderabad 0.4 per cent, Bellary, Anantapur and Coorg 0.2 per cent each.

4. *Admission of students.*—In all 203 candidates applied for admission to the Engineer class and 412 for the Probationary Subordinate class, and of these 32 were admitted to the former and 108 including 3 Military students to the latter class. Seventeen applications were received for the three Electrical Engineering scholarships.

5. *Examinations—Engineer class, Senior division.*—The Civil branch consisted of 14 students and of these 13 passed the final examination, one with honours, except that two failed to qualify in practical surveying.

The one student who failed completely was considered good enough to justify application to Government on his behalf to allow of his proceeding on practical training in order to enable him to qualify for an Upper Subordinate diploma.

The average percentage of marks obtained was 58.8.

All the eleven students constituting the *Mechanical Engineer* class passed the final examination, gaining 57.5 per cent of the total marks.

Second division (third year)—Civil.—There were 14 students in this division and all appeared for the sessional examination. Three failed to qualify for promotion and continue in the class this year.

Mechanical.—The twelve students forming this division passed the final examination.

Third division (second year).—Of the 33 students in this class, one failed to qualify to go on with the Engineering course and he was permitted to join the junior division of the Upper Subordinate class. Of those who qualified, 21 joined the Civil and 11 the Mechanical branch.

Fourth division (first year).—All the 31 students of this class passed on in accordance with the rules to the second year of the course.

Upper Subordinate class, senior division.—There were 44 students in this class. All but one passed the final examination, 5 with honours. The one who failed did not return to the College; it is understood that he obtained an appointment in the Mysore Service. Of the passed students eight in the first instance did not qualify in practical surveying. The average percentage of marks obtained was 58.7.

Junior division.—This class was 43 strong. Two students—one Civil and one Military—failed in the examination. The Civil student continued in the same class this session while the Military student reverted to his regiment.

Lower Subordinate class.—Of the 79 students constituting this class, 65 passed (three with honours) and 14 failed. Of those who passed, 18 failed to reach the standard demanded in practical surveying but 14 have since passed on re-examination. The remainder have still to qualify.

The comparatively higher number of failures in this and the following Probationary class was due to our insistence on a somewhat higher standard of attainment both in practical work and examination tests.

The average of marks gained was 44.9.

Probationary Subordinate class (second year division).—The strength of this class was 120 and of these 23 failed to qualify for proceeding to higher courses of study. Of those who passed, the 40 at the head of the list were selected for the Upper Subordinate class and the rest formed the Lower Subordinate class.

Of the failures, 19 rejoined the class for this session.

(First year division).—This division contained 119 students and all in accordance with the rules proceeded with the second year of study.

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

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

Gold medal—P. Venkataramana Raju, Engineer class.

Silver medal—K. V. Somanathan, Upper Subordinate class.

Bronze medal—N. K. Govinda Rao, Lower Subordinate class.

The Harris gold medal for proficiency in Electrical Engineering was awarded to R. D. Narasimham and the De'Winton gold medal for Hydraulic Engineering to P. Venkataramana Raju of the Engineer class.

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

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

The Madhava Rao prize for practical surveying to T. Sekharan.

Upper Subordinate class.—The Colonel Roger's prize went with the medal to K. V. Somanathan who also gained the Colonel Love prize for Hydraulic Engineering and the H. J. Thompson prize for construction, building, drawing and estimating.

The Madhava Rao prize for skill in workshop practice was awarded to Sergeant Ravine.

The Madhava Rao prize to a Mahratta Brahman for skill in workshop practice was not awarded for want of a qualified candidate.

Lower Subordinate class.—The Colonel Love prize was awarded to the senior student N. K. Govinda Rao.

8. *University Examinations.*—Twenty-three Engineer students from the college and four ex-students presented themselves for the B.E. Degree examination and of these 12 passed in the Civil branch and 7 in the Mechanical branch.

For the F.E. examination, 49 students appeared of whom 32 were second year students, 10, third year students, 4, final year students and 3, ex-students. In all 25 were successful—18, second year students, 6, third year students and 1, final year student.

The University Rao Bahadur S. Subraya Achariyar's gold medal was awarded to A. C. D. Rozario, the J. A. Jone's prize for Hydraulic Engineering to S. R. Narasimhan, and the A. T. Mackenzie memorial prizes to A. C. D. Rozario and K. S. Raghavan.

9. *Practical courses.*—Twenty-two Engineers (12 Civil and 10 Mechanical) and forty-three Upper Subordinate students started on the usual courses of practical training about the middle of June last. One Civil and one Mechanical Engineer student took up appointments in the Mysore Service soon after the completion of their theoretical courses, and did not join for practical training.

Twelve of the Civil Engineer students including the senior who this year was appointed Apprentice Engineer and all the Upper Subordinate students were as usual posted to the Public Works divisions.

Of the 10 Mechanical Engineer students, 6 joined the Public Works Workshops, 3 were posted to the Madras and Southern Mahratta Railway Workshops, Perambur, and one was admitted to the Tata Hydro-Electric Works, Bombay.

V. S. Kolandavelu, one of the students under training at Perambur, has since been granted a State technical scholarship for the study of Locomotive Engineering and has proceeded to England for that purpose.

The equitation classes, owing to the want of fully trained horses, were temporarily discontinued from early in January, but they have recently been restarted and the remaining batches of students will soon complete the training.

Owing to the demand for subordinates in the Public Works Department, some of these students are being appointed to the service before the completion of the year's training under special orders from Government.

10. *Military students.*—The number of Military students on the rolls at the beginning of the session was seven distributed as follows:—

Practical course	...	...	...	...	...	...	2
Upper Subordinate class, second year	...	...	...	...	...	...	1
Upper Subordinate class, first year	...	...	...	...	...	...	1
Probationary Subordinate class, first year	...	...	...	...	...	...	3
Total	...	...	...	...	...	...	7

11. *Revenue Officers' class.*—Excluding an officer who left to join for military duty in the middle of his course and another who discontinued attending owing to ill-health, ten underwent the usual course of training from the 8th October to the 20th December 1918. The work they did was quite satisfactory and they all appeared to make efforts to utilize their time to the best advantage.

12. *Survey camp.*—The camp was held from January 6th to 31st at Pallavaram, St. Thomas' Mount, and Saidapet with a total of 494 students in attendance.

The A. Party, consisting of the Engineer classes, first, second, and third divisions, part of the Lower Subordinate class and half the Probationary Subordinate class, first division, 180 students in all, was at Pallavaram for the first half period of the camp and changed over for the second half with the B. Party of 176 students, made up of the two Upper Subordinate divisions and the remainder of the Lower Subordinate and Probationary Subordinate students, which started at St. Thomas' Mount. The third party comprising the first year Engineering and Probationary Subordinate students worked throughout in and near Saidapet.

At Pallavaram, the parties in turn surveyed the cantonment in the manner necessary for the preparation of water-supply and drainage schemes, the senior classes doing the theodolite work and the other classes the contouring and filling in of details with the plane table. The final year students also selected and laid out on the ground a line for a main from a site from a pumping station near the Adyar river to a proposed water-service reservoir on a hill convenient to the cantonment. This made good practice in open and closed traverse work and gave the students some notion as to the way a small town may be surveyed.

At St. Thomas' Mount, the final year students of the Engineer and Upper Subordinate classes were engaged on trigonometrical surveying and other work with

the theodolite. The period of training of the Engineer students was extended by three days for instruction in Tacheometry and solar observation work, and they also attended a course of lectures on Astronomy given in camp by the Professor of Mathematics.

The third year students did ordinary levelling, hill and tank contouring, and ghaat tracing.

The Lower Subordinate class was engaged on levelling, simple theodolite traversing and the setting out of curves.

The second year students both at Pallavaram and St. Thomas' Mount devoted about half their time to levelling and the remainder to plane table and chain surveying.

At Saidapet, the first year classes had thorough practice for a clear three weeks on chain and compass surveying in the town of Saidapet, at Guindy and over the surrounding neighbourhood.

We are under obligation to the military authorities both at Pallavaram and St. Thomas' Mount for granting us facilities for surveying in and around the barracks and on military land generally, and to the Garrison Engineer, Madras, for kindly allowing us the use of buildings for camp office and store purposes.

The weather was favourable and this year there was no wasted time owing to rain. The members of the staff worked long hours and evinced every desire to impart instruction to the students in the classes under their charge.

The total cost of the camp was Rs. 5,475.

13. *Engineering Laboratories.*—The time of the senior members of the staff was taken up to a considerable extent this last year with preparatory work relating to the arrangement and fitting up of the laboratory at Guindy, and nothing much more than routine testing and demonstration work has been done here.

We have not been able to obtain any new machines or apparatus from Europe for the last two years and the only recent addition of importance is a 325-K.W. resistance frame for the Electrical Engineering laboratory made locally by Messrs. Siemens Bros.

The Professor of Mechanical Engineering in his report remarks that in the Mechanical Engineering laboratory "the work is badly held up owing to insufficient apparatus and space" and the Professor of Electrical Engineering states that in his laboratories "there is a shortage of machines and instruments aggravated by cancellation of last year's Europe indent," but this will all be remedied when we get into working order at Guindy.

14. *Workshops.*—All classes had the usual courses of instruction in workshop practice and we have in that connexion made full use of our limited equipment. Owing to the very considerable rise in the prices of workshop materials we found some difficulty in carrying on within our allotment and it has only been possible to do so by allowing our stock of hand tools to run rather low so that a good deal in the way of replacement will be necessary in the near future.

A fairly large staff of carpenters was employed throughout the year on furniture and equipment for Guindy, comprising chiefly bookcases for the library and benches for the Engineering laboratories and workshops, the total expenditure amounting to about Rs. 9,000.

The additions to the workshop equipment include a portable crane, a hand power screw press and a few small appliances, all of which were purchased from stocks held in this country.

15. *Visit to works.*—The senior divisions of the Engineer (Civil) and the Upper Subordinate classes under the charge of the Professor of Civil Engineering accompanied by an Assistant Instructor proceeded to Gōdāvari about the middle of September for the inspection of the irrigation works of the Gōdāvari and Kistna deltas. The party after inspecting the railway bridge over the river proceeded to Dowlaihwaram where they were shown the eastern and western delta head sluices and the new lock. They then went on to Bezvada visiting on their way the Gunnavaram aqueduct, the Gopalpur lock and channel, and the Lolla lock. At Bezvada, the eastern and western delta head works, the water-works, the Kistna

railway bridge and the new railway station buildings were seen. The party finished up the tour with a visit to Divi to inspect the pumping installation and returned to Madras on the 21st September.

At about the same time, two parties of students were taken to the south for a tour round some of the works in the Cauvery delta—the one party consisting of 25 students of Engineering II (Civil) and 42 students of Upper Subordinate II and a military student under the charge of the Instructor of Civil Engineering and two Assistant Instructors and the other 73 students of the Lower Subordinate class accompanied by the Instructor in survey and two Assistant Instructors. Starting from Trichinopoly, the first party proceeded to the Grand Anicut and inspected the Vennar and Cauvery regulators, the Uttamaseri bridge and the old Vennar head. From there they returned to the Upper Anicut via Elamanur where the students were shown round the works at that place including the two gauge wells with automatic water level recorders. The 150 yards calingula on the Cauvery and the Rock Fort reservoir were visited and the party got back to Madras on the 22nd September.

The second party toured round in the opposite direction.

The students of the first and second divisions of the Engineer class (Mechanical) were taken by the Professor of Electrical Engineering on a visit of inspection extending over a week to Mysore. They visited the Hydro-Electric Power station at Sivasamudram, the Fort station and Indian Institute of Science at Bangalore and the works on the Kolar Gold Field, where some attention was devoted also to the electrical equipment of the Receiving station and Power station plant. The party were kindly received and granted every facility at all places by the authorities in charge.

The total number of students who took part in these tours was 211 and the expenditure Rs. 2,308.

During the session, visits were as usual paid by all classes to local engineering works including the Madras Corporation Water-works, Madras Harbour works, Government Brickfields, Aminjikarai Tile works, Madras Cement works, S.I.R. Ice Factory, Buckingham Mills, Madras and Southern Mahratta Railway workshops at Perambur, Power station of the Madras Electric Supply Corporation and Red Hills Tank. The students were also taken out on inspection to buildings under construction such as the Madras and Southern Mahratta Railway Company's new offices, Engineering College, Guindy, Veterinary College hostel buildings and Medical School hostel.

16. *Library.*—During the year under review 117 books were added to the Library which now contains 6,310 volumes. Owing presumably to shipping difficulties, the books ordered in October last from Messrs. F. P. Baker & Co., London, have not yet come to hand.

The numbers of books issued on loan to the staff and students were 810 and 2,836 respectively and 165 references were made in the library.

The library catalogue was printed in 1911 and it has been brought up to date since with yearly slips, but a re-arrangement of the books in a new catalogue is now very necessary and this we hope to complete before we get to Guindy.

The annual check of the books in the library has just been made, and the books reported missing are being traced.

Athletic and Recreation Club.—The duties of Honorary Secretary and Treasurer have been kindly undertaken throughout the session by Mr. H. W. Barker, Professor of Civil Engineering, and the following is the substance of his report on the working of the Club:—

"The teams representing the College in the Inter-Collegiate Athletic Association's competitions have not been so successful in the past season as in recent preceding years, but the College recreation ground has been extensively patronised and inter-class competitions have been held, as is usual in this College.

"The College football team reached the semi-final stages of the Wilson cup and the Raja of Venugopal cup.

"Cricket is not very popular in the College and practice is of a very desultory nature; when the College moves to Guindy and the proposed cricket ground there is laid out and equipped, it is intended to make an effort to revive interest in the game, and to organize practice and to arrange more inter-class matches. Tennis is very popular, in fact too popular as youths of College age would learn better lessons from cricket, football and hockey than is possible on a tennis court.

"The Inter-class competitions were won as follows:—

Cricket	...	Third and Fourth years Engineer students.
Football	...	First and Second do.
Hockey	...	First year Upper Subordinate students.
Tennis	...	Not yet decided.

"Athletic sports were held, with a view to extending interest in the field events. Group championships were instituted; as a result there was a record number of competitors and the heats, on which these minor championships were decided, aroused more interest among the students as a whole than did the finals of the College sports.

"The College representatives were the runners up in the inter-college athletic sports, and although this College had no outstanding athlete it is probable that the Engineering College had a greater number of competitors who scored points than any other college. As is so often the case, the majority of points scored by the successful college were obtained by one student, whose performances dwarfed the efforts of all other competitors."

The club is much indebted to the Honorary Secretary and to Mr. Old for the interest they have taken in its affairs during the past year.

17. *College of Engineering Association.*—The association has had quite a successful year and is stronger to the extent that it now has 207 members as compared with 141 last session.

Six ordinary meetings have been held—five for the reading and discussion of papers on technical subjects by members of the staff and students and the sixth for an interesting disquisition by a student on "Indian Painting." Two social meetings were arranged, the one at Convocation time for the entertainment of the graduates of the year, and the other a general gathering combined with the usual exhibition of students' work at the end of the session.

Two numbers of the magazine have been issued and these fully maintain the standard set last year. More frequent publication being mainly a matter of funds we can look forward to closer issues when the position in regard to cost of paper and printing becomes easier.

18. *Hostel.*—The hostel continued in the same premises in Akbar Sahib Street, Triplicane, with M.R.Ry. N. Ramanuja Acharya as Deputy Warden throughout the year. At the beginning of the session in order to provide living room accommodation for a larger number of students, the lease was taken of a house in Alangatha Pillai street, in the near neighbourhood at a monthly rental of Rs. 42-8-0.

The number of members has averaged 102, as compared with 70 in the previous year, and of these 68 are fully resident, the remainder living in private rooms which are inspected periodically by a member of the staff.

The average monthly boarding charge has been Rs. 18 as against Rs. 12 last year. This increase is nearly half accounted for by the relatively heavy water-tax of about Rs. 40 per month now levied on the hostel and it is much to the credit of the kitchen management that in this period of high prices the cost of living to the students has been so little increased.

The hostel was temporarily transferred to Saidapet as usual in January for the convenience of the junior students in Survey camp at that place, and boarding and lodging was provided there for 68 students. The inclusive charge worked out at about Rs. 18 as compared with Rs. 23 which it cost the students who formed lodges in the town.

19. *Attendance and conduct.*—The percentage of attendances to numbers on the rolls of the College was 92.27. Detailed particulars for the several classes are given in Appendix E. The conduct of the students during the year was satisfactory.

20. *Employment of passed students.*—Of the twenty-one Engineer students who completed their practical courses in 1918, the senior in the Mechanical branch was appointed to the permanent establishment of the Public Works Department as Assistant Engineer and others obtained employment as follows:—

District Board Assistant Engineers	...	...	...	...	4
" " Supervisor	...	...	...	...	1
Temporary upper subordinates, Public Works Department, Madras	...	...	...	...	12
Supervisor, Department of Agriculture, Madras	...	...	...	...	1
Supervisor, Public Works Department, Travancore	...	...	...	...	1

Forty-two upper subordinates satisfactorily completed their practical training and the senior among the civilian students was appointed permanent Overseer, third grade, in the Public Works Department. Of the two Military apprentices, one was employed by the Public Works Department and the other was transferred to the Military Works Service. Reports have been received of thirty-eight upper subordinates having obtained employment as under:—

Temporary upper subordinates, Public Works department	...	...	...	36
Supervisor, Vizagapatam Municipality	...	...	...	1
State Overseer, Cochin	...	...	...	1
				38

Forty-seven lower subordinates completed the college course in April 1918. Of these 41 reported employment as follows:—

Sub-Overseers, Public Works Department	...	...	...	18
Draftsmen, Public Works Department	...	...	...	9
Overseers, District Board	...	...	...	5
Sub-Overseers, District Board	...	...	...	5
Sub-Overseer, Municipal Council	...	...	...	1
Minor Irrigation Overseers	...	...	...	2
Do. Sub-Overseer	...	...	...	1
Surveyors, Special Engineer's office, Cochin	...	...	...	2
Water-works Sub-Overseer, Military works	...	...	...	1
Sub-Overseer, Expeditionary Force	...	...	...	1
Draftsman, Corporation of Madras	...	...	...	1
				41

No information has been received from the remainder. Particulars of the vacancies notified during the year are given in Appendix F.

21. *Casualties.*—I regret I have to record the deaths of two students—one belonging to the upper subordinate class, second year division, and the other to the probationary subordinate class, second year division.

22. *Financial details.*—This information is given in Appendix G. It will be noted that the receipts for 1918-19 amount to Rs. 38,896 and the charges to Rs. 1,76,742 resulting in a net cost to Government of Rs. 1,37,846. The average number of students on the rolls during the year was 518 and the net cost per student Rs. 266.

The above figures are subject to modification after full particulars of all adjustments are communicated to this office by the Accountant-General.

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

In conclusion, I desire to acknowledge the loyal co-operation of all members of the staff in carrying on the work of the College.

APPENDIX A.

	Europeans and Eurasians.	Indian Christ- ians.	Muham- madans.	Hindus.			Others.	Total.
				Brahmans.	Non- Brahmans.	Pandha- mas.		
Engineer class	1	14	2	89	19	..	..	118
Upper Subordinate class ..	2	5	..	57	19	..	..	83
Lower Subordinate class ..	1	2	1	53	16	..	..	73
Probationary Subordinate class.	3	12	1	177	51	..	..	244
Total ..	7	33	4	389	105	..	..	518

APPENDIX B.

Districts.	Engineer class.	Upper Subordinate class.	Lower Subordinate class.	Probationary Subordinate class.	Total.
Ganjam	1	2	2	9	14
Vinayapatnam	4	..	..	3	7
Godavari	8	8	7	20	43
Kistna	5	..	11	15	37
Guntur	..	..	2	10	12
Bellary	..	..	1	..	1
Anantapur	..	..	..	2	3
Kurnool	..	..	4	3	8
Nellore	1	..	2	16	20
Madras	3	4	4	12	24
Chingleput	4	4	1	1	10
North Arcot	1	2	3	14	20
Chittoor	1	4	1	3	9
South Arcot	..	..	16	7	23
Tanjore	15	12	18	45	85
Trichinopoly	5	9	5	11	30
Madurai	5	2	2	6	16
Ramnad	10	2	3	19	40
Tinnevely	1	1	2	9	13
Coimbatore	2	3	..	1	6
Salem	10	8	..	18	36
Malabar	2	..	..	6	18
South Kanara	..	..	..	1	3
Pudukottah	..	..	..	3	8
Ochin	6	..	..	2	15
Travancore	10	5	..	1	16
Mysore	2	..	..	1	7
Hyderabad	2	..	..	..	2
Ceylon	2	..	..	1	3
Coorg	1	..	..	..	1
Total ..	118	81 + 2*	78	241 + 3*	518 + 5*

* Military students.

APPENDIX C.

Class.	Wealth.			Total.	Occupation.							Total.
	Richer class.	Middle class.	Poorer class.		Officials.	Petty officials.	Traders.	Landholders.	Artisans.	Mendicants.	Others.	
Engineer class, fourth year	1	22	..	23	18	..	1	4	..	..	..	23
Do. third year	5	30	..	35	26	..	1	8	..	..	..	35
Do. second year	5	22	2	29	20	..	5	3	..	..	1	29
Do. first year	3	28	..	31	19	..	1	6	..	..	..	33
Upper Subordinate class, second year ..	..	36	3	39	20	3	4	11	..	..	1	39
Do. Military student	..	..	..	1	..	..	..	..	..	..	..	1
Upper Subordinate class, first year ..	..	41	1	42	19	1	5	17	..	..	..	42
Do. Military student	..	..	..	1	..	..	..	..	..	..	..	1
Lower Subordinate class	..	69	4	73	34	2	4	31	..	..	2	73
Probationary Subordinate class, second year.	..	128	11	139	72	..	10	55	..	..	..	137
Do. first year	..	83	19	102	57	..	10	35	..	..	2	104
Probationary Subordinate Military students.	..	..	..	3	..	..	..	..	..	..	..	3
Total ..	19	454	40	513	285	7	45	170	..	..	6	518

APPENDIX D.

Results of examination of March 1918.

Engineer class, fourth year, Civil branch—	
Branch I, Mathematics and Science	58.2
Branch II, Engineering	59.4
Physical exercises	58.1
Average	58.8

Engineer class, fourth year, Mechanical branch—	
Branch I, Mathematics and Science	51.2
Branch II, Engineering	59.6
Physical exercises	48.3
Average	57.5

Engineer class, third year, Civil branch—	
Branch I, Mathematics and Science	54.2
Branch II, Engineering	60.1
Physical exercises	55.5
Average	57.9

Engineer class, third year, Mechanical branch—	
Branch I, Mathematics and Science	57.1
Branch II, Engineering	65.1
Physical exercises	60.6
Average	62.6

Engineer class, second year—	
Branch I, Mathematics and Science	57
Branch II, Engineering	60
Physical exercises	62.9
Average	58.9

Engineer class, first year—	
Branch I, Mathematics and Science	59.4
Branch II, Engineering	61.4
Physical exercises	54.8
Average	60.3

Upper Subordinate class, second year—	
Branch I, Mathematics	62.2
Branch II, Engineering	58
Physical exercises	59.6
Average	58.7

Upper Subordinate class, first year—	
Branch I, Mathematics	71.5
Branch II, Engineering	58.7
Physical exercises	56.8
Average	62.4

Lower Subordinate class—	
Engineering	44.1
Physical exercises	52.4
Average	44.9

Results of examination of March 1918—cont.

Probationary Subordinate class, second year—	
Branch I, Mathematics	61.2
Branch II, Engineering	57.5
Physical exercises	59.8
Average	58.4

Probationary Subordinate class, first year—	
Branch I, Mathematics	67.9
Branch II, Engineering	58.4
Physical exercises	54.4
Average	60.3

APPENDIX E.

	Average number on rolls.	Average daily attendance.
Engineer class, first division	23.2	22.07
Do. second division	34.1	32.61
Do. third division	29.4	28.22
Do. fourth division	31.4	29.88
Upper Subordinate class, first division	39.8	38.78
Do. second division	42.7	43.58
Lower Subordinate class	72.6	62.40
Probationary Subordinate class, first division	136.8	120.15
Do. second division	108.3	100.56
Total	518.3	478.25

Percentage of numbers present to number on rolls 92.27

APPENDIX F.

Classification of vacancies notified during the year 1918-19.

	Government.				Local boards and municipalities.			Railways.			Native States.			Private employees.			Total.
	Above Rs. 200.	Rs. 100 to 200.	Rs. 50 to 100.	Under Rs. 50.	Above Rs. 200.	Rs. 100 to 200.	Rs. 50 to 100.	Under Rs. 50.	Above Rs. 200.	Rs. 100 to 200.	Rs. 50 to 100.	Under Rs. 50.	Above Rs. 200.	Rs. 100 to 200.	Rs. 50 to 100.	Under Rs. 50.	
Engineer or Assistant Engineer.	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	3
Supervisor.	..	1	..	..	3	..	..	..	..	..	..	..	..	..	..	..	4
Overseer.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sub-overseer.	..	..	3	19	..	..	..	1	..	..	..	..	..	..	..	..	23
Draughtsman.	..	..	5	23	..	..	..	2	..	..	..	..	..	..	..	..	30
Surveyor.	..	..	13	..	..	..	..	..	..	..	..	..	..	..	..	..	13
Channel Superintendents.	..	..	..	6	..	..	..	..	..	..	..	..	..	..	..	..	5
Total	1	21	47	..	6	..	3	..	..	..	..	..	..	..	..	..	78

APPENDIX G.

Financial details for the year 1918-19.

Receipts—

	RS.	A.	P.
(1) Tuition and registration fees	38,345	9	0
(2) Miscellaneous	551	2	5
Total	38,896	11	5

Charges—

(1) Principal	15,000	0	0
(2) Professors and Instructors including Presidency and house-rent allowances	88,756	4	1
(3) Allowance to Deputy Warden, College of Engineering Hostel	360	0	0
(4) Accountant, Librarian, clerks and servants, local and grain compensation allowances	6,775	7	3
(5) Library, prize books and medals	880	15	3
(6) Travelling allowance of officers and establishment	2,501	8	10
(7) Europe stores and laboratory charges	20,207	3	2
(8) Workshop materials	11,549	5	8
(9) Survey camp and inspection tour charges	7,782	10	3
(10) Printing maps and diagrams at the Survey office	274	9	1
(11) Riding and workshop fees	375	0	0
(12) Exchange compensation allowance	894	4	0
(13) Office contingencies and games	14,136	3	5
(14) Scholarships and stipends	7,749	0	7
Total	1,76,742	7	7

Net cost to Government Rs. 1,37,845-12-2

Average number of students on rolls No. 518

Net cost per student Rs. 266

Average tuition fee paid by students per annum. „ 74-8-0

* Includes Rs. 11,410, expenditure incurred on account of New College, Guindy.

APPENDIX H.

Comparative financial details.

	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.
Receipts	30,269	36,142	37,576	38,544	38,896
Charges	1,69,385	1,33,179	1,47,738	1,60,552	1,76,742
Net cost to Government	1,29,115	97,037	1,10,162	1,21,708	1,37,845
Average number of students on rolls	436	493	612	528	618
Net cost per student	296	197	216	230	266

R.C. No. 3516/19, dated 14th June 1919.

Recorded.

2. The Acting Director has perused with satisfaction the Principal's report, which is as usual full and exhaustive, and he congratulates the Principal and the staff on another year's satisfactory work.

R. LITTLEHAILES,
Acting Director of Public Instruction.

To the Principal, College of Engineering, Madras.
" Principals of other Government Colleges.

" Inspectors of Schools.

" Superintendent, School of Arts, Madras.

" " School of Engineering, Vizagapatam.

Copy to the Director of Industries, Madras, for information.

" the Chief Engineer, Public Works Department, for information.

" the Government, for information (with C.I.).

No. 816, HOME (EDUCATION), 1ST JULY 1919

Order—No. 816, Home (Education), dated 1st July 1919.

Recorded.

(True extract)

R. RAMACHANDRA RAO,
Secretary to Government.

To the Director of Public Instruction.
" Public Works Department.
Editors' Table.

GOVERNMENT OF MADRAS

HOME (EDUCATION) DEPARTMENT

No. 817

LETTER—TO

THE UNDER SECRETARY OF STATE FOR INDIA.

Dated Ootacamund, the 1st July 1919.

MY LORD,

With reference to the instructions conveyed in Lord Hartington's Despatch No. 9 (Public Works), dated the 18th May 1882, I am directed to forward a copy of the Proceedings of the Madras Government recording the report on the working of the College of Engineering, Madras, during the academic year 1918-19.

I have the honour to be,

My Lord,

Your most obedient servant,

R. RAMACHANDRA RAO,
Secretary to Government.

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Report

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Box 14
27.5.19

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Report

Home (E.V.) DEPARTMENT.

Recording the — or the
working of the college of Engineering
Madras during 1918-19

READ AGAIN G.O. No., dated

" " " " " " " "

READ ALSO:—

C. No. 1495A From the Dir. of Pub. Instn. No. 3516/19, dated 18 June 1919.

" " " " " " " " 191

" " " " " " " " 191

ORDER.

No. 816, dated 1.7.1919

From

another years steady work
to the credit of Mr. James

to Hm.
28/6/19

27/6/19

The Dir. of Pub. Instn.
The Public Works Dept.
Editors' Table.

Recorded

SMP
28/6/19

28/6/19

27/6/19

D.

Letter.

No. 817, dated 1.7.1919

To

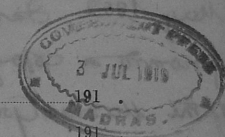
The Under Secy of State for India

My Lord,

With reference to me

Despatch to the
Indian Office.

Adm. by 7.15



instructions conveyed in Lord
Hartington's Dispatch No. 9
(Public Works) dated the 18th
May 1882, I am directed to
forward a copy of the Proceedings
of the Madras Government
recording the report on the
working of the College of
Engineering, Madras, during
the academic year 1918-19.

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

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

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

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

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

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

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

(e) The names of the Secretary and Members should be printed 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.

TO PRESS, MADRAS OOTY.

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Reference.
Clerk.

Supdt.

B

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Type may be released after usual interval at once.

Reference.
Clerk.

Supdt.

C

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Type may be released after usual interval.

Reference.
Clerk.

Supdt.

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