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[Despatch Abstract.]

College of Engineering

Recording proceedings of the Director of Public Instruction reviewing the report on the working of the — during 19 and forwarding a copy of the Proceedings of this Government to the Under Secretary of State for India.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

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Government of Madras.

EDUCATIONAL DEPARTMENT.

Recd. } 1907. *Enclosures*

Rsgd. } *Spare copies*

G.O., No. 396, 20th June 1907.

College of Engineering.

Recording Proceedings of the Director of Public Instruction reviewing the report on the working of the — during 1906 and forwarding a copy of the Proceedings of this Government to the Under Secretary of State for India.

GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

Read—the following paper :—

Letter—from the Hon'ble Mr. T. T. Logan, B.A., Acting Director of Public Instruction.
To—the Secretary to Government, Educational Department.
Dated—the 15th May 1907.
No.—Cur. 3662.

I have the honour to submit herewith a copy of my Proceedings, Dis. No. 2875, dated 11th May 1907, reviewing the report on the working of the College of Engineering during 1906.

Enclosure.

Proceedings of the Director of Public Instruction, Dis. No. 2875, *dated* 11*th May* 1907.

Read—the following paper :—

Letter—from Colonel H. D. Love, R.E., Principal, College of Engineering, Madras.
To—the Director of Public Instruction, Madras.
Dated—the 27th March 1907.
No.—2637-C.

I have the honour to submit the Administration Report of the College of Engineering for the year 1906.

2. *Staff.*—Sanction was received to the re-engagement of Mr. R. A. Ryves, A.M. Inst. C.E., temporary Professor of Civil Engineering, for a further period of one year from the 25th October 1906.

Sub-Conductor R. Cuthbert, Acting Instructor in Surveying and Drawing and Superintendent of Military Students, reverted to the Public Works Department on the forenoon of the 13th March 1906. M.R.Ry. V. S. Gnanaprakasam Pillai, Sub-Assistant Engineer, Madras Railway, replaced Sub-Conductor Cuthbert, as Instructor in Surveying and Drawing, substantive *pro tem.*, joining for duty in the Provincial Educational Service on the 28th June 1906. The duties of the post were carried on in the interim by the Professor of Civil Engineering and the Assistant Instructors.

Mr. B. O. Reynolds, Instructor in Civil Engineering, was appointed to act, in addition to his own duties, as Superintendent of Military Students, with effect from the date of reversion of Sub-Conductor R. Cuthbert.

Mr. J. Webster, Instructor in Mechanical Engineering, was re-appointed for a further term of five years on a salary of Rs. 450 per mensem from the 30th January 1906. He was granted leave on medical certificate from 1st May to 1st July on full pay, and from 2nd to 31st July on half pay.

M.R.Ry. C. V. Narayanaswami Aiyar was confirmed as Assistant Instructor in Surveying with retrospective effect from 1st November 1905.

During the year the creation of a new appointment of Instrument Repairer on Rs. 30—3—45 in lieu of the lapsed appointment of Foreman Blacksmith was sanctioned.

3. *Numbers.*—The numbers on the rolls at the end of the year were—

Class.	Practical course.	In College.			Total.
		Third year.	Second year.	First year.	
Engineer class	14	19	19	18	70
Engineer Subordinate class	31	*32	33	35	131
Sub-Overseer and Surveyor class	..	..	† 32	40	72
Draftsman class	..	..	‡ 30	34	64
Total	45	51	114	127	337

* Includes 1 casual student. † Includes 2 casual students. ‡ Includes 4 casual students.

Excluding the students on practical course, the total number actually in the college on the 31st December 1906 was 292. The corresponding totals for the last five years were—

Years.	Numbers.
1906	292
1905	293
1904	271
1903	292
1902	297

The distribution of the students by classes of the community, by districts, and by wealth and occupation of parents is given in Appendices A, B and C. Of the total number 67·5 per cent. were Brahmans. 21·9 per cent. non-Brahman caste Hindus, 3·7 per cent. Native Christians, 3·7 per cent. Europeans and Eurasians and 3·0 per cent. Muhammadans. The percentage of Brahmans has fallen a little this year while those of the non-Brahman caste Hindus, Europeans and Eurasians have slightly risen. The percentage of Native Christians remained stationary. As regards districts, Tanjore was represented by 26·0 per cent., Trichinopoly 9·2 per cent., Kistna 7·9 per cent., Coimbatore 6·1 per cent., Madura and Tinnevelly 5·8 per cent. each, Madras 4·8 per cent. and Chingleput and Travancore each 4·1 per cent. of the total number.

4. *Entrance examinations.*—The numbers offering for admission were—

Class.	Examined.	Passed.	Admitted.
Engineer class	* 27	22	20
,, Subordinate class	† 193	96	30
Sub-Overseer and Surveyor class	‡ 303	88	35
Draftsman class	§ 121	42	31

* Of these 5 had passed or appeared for the B.A. Degree examination.
† Of these 12 had passed the First-in-Arts Examination.
‡ Of these 33 had passed the Matriculation examination.
§ Of these 3 do. do.

The number of applicants for the Engineer Subordinate and Sub-Overseer and Surveyor classes shows a slight increase while that for the Engineer and Draftsman classes shows a marked diminution.

5. *Examinations of December* 1906.—Before enumerating the results of these examinations, it will be convenient to premise that students of the senior divisions of classes were, under the authority of the Director of Public Instruction, granted the option of presenting themselves for examination in the subjects studied during the final year only, or in all subjects. A few students, who had, through sickness or other cause, been unsuccessful at previous term examinations, took advantage of the second alternative. These are classed below as college independent candidates to distinguish them from the ordinary independent candidates who are ex-students presenting themselves in all subjects. The casual students mentioned below are persons who, after failure at a final examination, have been specially permitted to attend the college for a further period of instruction.

(*a*) *Engineer class.*—The third year division contained 19 students. Of these 18 appeared for the final examination as college students and 15 passed. The average percentage of the total marks was 56·8. One of the college students presented himself as an independent candidate but failed. The second and first year divisions of the class containing 19 and 18 students, respectively, appeared for the term examinations, and obtained 54·8 and 55·0 per cent., respectively, of the total marks.

(*b*) *Engineer Subordinate class.*—The senior division contained 31 students exclusive of one casual student. Of these 27 appeared for the final examination as college students and 23 were successful. The average percentage of marks gained was 57·7. The remaining four college students presented themselves as independent candidates together with one casual and nine outside candidates, and four passed (two college independent and two ordinary independent candidates). The intermediate and junior divisions of 33 and 35 students, respectively, appeared for the term examinations and secured 59·6 and 48·6 per cent. of the total marks, respectively.

(*c*) *Sub-Overseer and Surveyor class.*—In the senior division of this class there were 30 students, exclusive of two casual students. Of these, 24 students appeared for the final examination as college students and 18 passed. The average marks obtained were 57·3 per cent. The remaining six students presented themselves as independent candidates together with two casual and 16 ex-students. Ten of these passed (three college independent, one casual and six ordinary independent candidates). The junior division of the class containing 40 students appeared for the term examination and secured an average of 59·0 per cent. of the total marks.

(*d*) *Draftsman class.*—There were 26 students in the senior division exclusive of four casual students. Of these, 20 appeared for the final examination as college students and 12 passed, two in the first class and the remainder in the second. The average marks gained were 56·9 per cent. The remaining 6 students presented themselves as independent candidates together with 3 casual and 24 ex-students. Five of these passed (one college independent and four ordinary independent candidates). The remaining casual student needed and obtained qualification in the college total only. The junior division of the class which contained 34 students appeared for the term examination and obtained an average of 54·1 per cent. of the total marks.

6. *Examination results.*—The percentages of marks secured under the various subject heads by the senior divisions of the classes are compared in Appendix D with the average results of the preceding four years.

7. *Honours and Distinctions.*—The college medals were awarded as follows to students of the senior class divisions of 1906 :—

Gold Medal ...	...	M. Parameswaram Pillai, Engineer class.
Silver Medal ...	...	M. B. Krishnaswami Aiyangar, Engineer Subordinate class.
Bronze Medal	...	M. S. Srinivasa Rau, Sub-Overseer and Surveyor class.
Do.	...	R. Dumont, Draftsman class.

The Rao Bahadur S. Subbaraya Chariyar gold medal and also the J. A. Jones prize were awarded by the University on the results of the B.E. degree examination of 1906 to T. N. Venkatarama Aiyar, B.A.

A former student of the college, who desires for the present to remain anonymous, presented a gold medal in 1906 in memory of Mr. W. B. deWinton, C.I.E., late Chief Engineer, Public Works Department, for proficiency in Hydraulic Engineering. The medal was won by Engineer students M. P. Mani, on the results of the examinations of 1905, and V. S. Srinivasa Raghavachari on those of 1906. The donor proposes to endow the medal in due course.

8. *Practical courses.*—Fourteen Engineer and 31 Engineer Subordinate students were under practical training from February 1906. Seven of the Engineer students, including the senior of the batch, who elected to become Mechanical Engineers, attended a workshop course—4 in the Public Works Workshops at Madras, 2 in those at Bezwada and 1 at Dowlaishweram. Seven who desired to become Civil Engineers worked in Public Works Divisions. One of the Mechanical Engineer students was, on the results of a competitive examination, appointed Assistant Examiner in the Public Works Department and joined his appointment before the termination of his practical course.

The Engineer Subordinate pupils, including Bombardier H. S. Taylor, a military student who qualified in December 1903 and who was ordered to rejoin for his practical course under the provisions of Gazette notification of 5th July 1904, went through the course in Public Works Divisions. The reports received from Executive Engineers were generally favourable. Nine students, who though successful at the final examination had not met college requirements in practical surveying, attended the survey camp held in July 1906 for further instruction for about a month, their practical course being extended by a corresponding period. The course of two other students also was extended owing to their absence on sick leave.

Both the Engineer and Engineer Subordinate students attended the Body Guard Riding School for the equitation course.

9. *Military students.*—The number of military students at the end of the year was 8, distributed as follows :—

Practical course			1
Engineer Subordinate class, senior division			1
Do.	do.	intermediate division	1
Do.	do.	junior division	5

The Military student in the senior division proved unsuccessful at the final examination of 1906 and reverted to his regiment.

10. *Survey camp.*—The annual survey camp was formed on ground about Poonamallee, St. Thomas' Mount and Pallávaram and maintained for four weeks. The Professor of Civil Engineering remained in camp throughout the period and controlled the work. Mr. Ryves was aided by the Instructor in Surveying and Drawing and five Assistants. This is the first occasion on which it has been found possible for a Professor to remain continuously in camp. The number of students attending the camp was 231. They found accommodation in the villages, while the staff and European and Eurasian students used the College tents supplemented by two others lent by the Executive Engineer, Chingleput Division. One additional tent has since been purchased for the College. Temporary drawing offices were erected at Poonamallee and St. Thomas' Mount, and bungalows were hired at Pallávaram. The work done was ample in amount and was on the whole of good quality. The cost of the camp was Rs. 2,918–9–6.

11. *Inspections.*—Two divisions of the Engineer class and two of the Engineer Subordinate class in charge of the Professor of Engineering, two Instructors and two Assistants, spent ten days in September in inspecting Irrigation works in the Cauvery Delta System. In the following month a five days' tour by one division of the Engineer Subordinate class, two divisions of the Sub-Overseer and Surveyor class, and one of the Draftsman class in charge of three Assistant Instructors was undertaken for the inspection of the Madras water-supply system. The cost of the two tours, in which 229 students took part, aggregated Rs. 792–13–9.

The usual inspections of Engineering works in Madras were made by individual class divisions.

12. *Workshop and laboratories.*—The Professor of Engineering in charge of Workshops and Laboratories, Mr. W. H. James, reports as follows : —

The number of students attending the workshop was—

Engineer students	61
Engineer Subordinate students	100
Sub-Overseer and Surveyor students	72
Draftsman students	67

"As usual the draftsman students only attended during the time the other students were out at Survey camp.

"Considering the very limited time, only two hours a week devoted to workshop practice, the progress made by the majority of students was quite satisfactory, and a few students showed considerable promise. Each year however the Sub-Overseer and Surveyor classes leave the impression that they are wanting in keenness and that they take little interest in the work. As pointed out previously this is probably due to the fact that they get no marks for workshop practice, a mistake which has been avoided in the new scheme for the allotment of marks.

"No application has been received for several years past for the Government apprenticeships, which carry subsistence allowances, and it might be advisable to draw attention through the usual channels to the advantages attaching to these appointments.

"The experimental work in connection with the determination of quantities for mortar and concrete, and the mortar tests for the Tungabhadra Project were completed during the year, and the results are now being collated. In addition, mortar investigations for the Divi Pumping and Nagavalli Projects, and a considerable amount of testing work for instructional and other purposes were carried out.

A further research for the Cauvery Project is now being taken in hand, and it is hoped some progress will also be made in the matter of an investigation of the elastic properties of timber on which a start was made some time ago. I have to acknowledge the assistance I have received in this work from Mr. Reynolds, Mr. Webster and M.R.Ry. Narayanaswami Aiyar.

"The only addition of any importance to the machine tools during the past year is a useful band-saw, and to make room for it we have had to crowd our benches still more together to the great inconvenience of both staff and students. Our urgent need for proper workshop and laboratory accommodation having been recognised by Government, it only remains to emphasise the fact that it will not be possible to undertake the specialised teaching suggested in the new syllabuses for Civil and Mechanical Engineering until something is actually done in the matter. Meanwhile with the new classes entering the College in July next, our inadequate accommodation will be even more severely felt, and the efficiency of the teaching to some extent affected."

13. *Physical training and recreation.*—Instruction in gymnastics was given as usual. The Military drill hitherto carried out having never proved altogether satisfactory, dumb-bell exercises and physical drill were last year substituted for marching and formations, and the result has been an increase of interest on the part of the students and improved results at the final examination. I am indebted to Mr. Reynolds for much assistance in the introduction and supervision of the new drill. Still greater improvement may be expected with a larger allotment of marks for drill and gymnastics, the marks being awarded annually, and not at the final examination only.

The Honorary Secretary of the Recreation Club, Mr. W. James, reports as follows :—

"The various clubs were well supported during the past year, and as a result of endeavours by some members of the staff, the attendance of students on the recreation ground was better in some degree than previous years.

"College teams as usual took part in the competitions of the Madras Collegiate Athletic Association and, considering all the circumstances, met with a fair measure of success. The College was second both for the Inter-Collegiate Foot-ball Championship and the Travancore Athletic Trophy, and third for the Professor's Cricket Trophy.

"The inter-class matches were well contested. The Cricket cup was won by the senior division of the Draftsman class, and considerable credit is due to the third division of the Engineer Subordinate class in that they succeeded in carrying off both the Hockey and Foot-ball cups within a few months of their joining the College.

"The extension to the recreation ground has been made fit for use and provides possibly the best hockey ground in Madras.

"The experiment was tried during the year of forming elected student-committees to look after the affairs of the several subsidiary clubs. They undoubtedly had the effect of stimulating the interest taken by the general body of students in the club, and they were of some assistance in other directions, but it is confidently anticipated that this year will see a considerable increase in the measure of their usefulness.

"M.R.Ry. Subrahmanya Aiyar informs me that good use was made of the magazines and periodicals supplied to the reading room. In this connection I beg again to point out that the income of the club is insufficient for the carrying out properly and efficiently of what may be termed its legitimate functions as an athletic club, and it would be of some assistance if the expenditure in the reading room could be met from other sources.

"I wish to take this opportunity of acknowledging the cheerful assistance I have received from Mr. Reynolds, Mr. Webster and M.R.Ry. Subrahmanya Aiyar in conducting the affairs of the club."

14. *Library.*—Progress was made with the rearrangement of the library and the preparation of a new catalogue which were commenced in the preceding year. The work advanced but slowly however, and necessitated the imposition of restrictions on the issue of books. Less use was consequently made of the library by students. During the year 86 books were added, bringing the total up to 4,559 volumes. The

number of books issued to the students and staff were 1,080 and 598 respectively against 1,906 and 545 in the previous year, while 468 references were made to the Consulting Library.

15. *Attendance and conduct.*—The percentage of numbers present to numbers on the rolls was 94·8 for the College department and 92·8 for the School department. Particulars are given in appendix E. The conduct of students was, on the whole, satisfactory, but instances were noticed of impatience of discipline, a feature which is regretted as this College has hitherto enjoyed a high reputation for the discipline and good order of its pupils. The most conspicuous case occurred when a third part of a class division submitted medical certificates to avoid proceeding on an unpopular inspection tour. The action in this and other instances was met by the withdrawal throughout the College of the privilege hitherto enjoyed by students of obtaining sick leave on certificates signed by qualified private medical practitioners.

16. *Casualties.*—A first-year student of the Engineer class was accidentally drowned in September while bathing in the Cauvery at Elamanur in disobedience of orders during an inspection tour. His body was recovered within half an hour, but all efforts at resuscitation proved unsuccessful. Another student of the same class division, a Mysore State scholar, died of enteric fever in June.

17. *University examinations.*—Four students of the senior division of the Engineer class appeared for the B.E. Degree Examination in January 1906 and one passed in the Civil Branch. Nine ex-students also presented themselves for the examination, but only one was successful in the mechanical branch.

Twenty-eight candidates offered themselves for the First Examination in Engineering, of whom twenty were second-year students and eight third year. Eight were successful in all, of whom four were second-year and the remainder third-year students. Four ex-students also appeared for this examination without success

These results cannot be viewed as satisfactory. I do not however regard the college students who presented themselves for the examinations as being below the average of previous years. I attribute the absence of better results to unusual stringency on the part of the University examiners, especially in the papers on Drawing. In the F.E. Examination the second-year students are placed at a disadvantage, since the standard of marking is virtually set by the third-year students.

18. *Employment of passed students of* 1905.—Of the eleven Engineers who completed their practical courses early in 1906, the senior G. Ramaswami Aiyar, was appointed Assistant Engineer in the Provincial Service of the Public Works Department on Rs. 250; one entered the Burma Public Works Department as a temporary Engineer; one obtained employment as Assistant Engineer under the Madura District Board; five accepted appointments as temporary Upper Subordinates in the Public Works Department; one became a Local Fund Overseer and one joined the Revenue Department as Engineering Assistant, Agricultural and Pumping Experiments. No information has been received regarding the remaining Engineer.

Of the nineteen Engineer Subordinates who completed their practical course early in 1906, the senior V. Venkatasuryanarayana was appointed a permanent Upper Subordinate, third grade, in the Public Works Department, on Rs. 60, while the two military apprentices were posted as Upper Subordinates, first grade. The remaining sixteen joined the Public Works Department as temporary Upper Subordinates.

Sub-Overseers and Surveyors.—Of the twenty-five Sub-Overseers and Surveyors who passed out in December 1905, twenty-three obtained employment as follow :—

Temporary Surveyors, Public Works Department	8
Sub-Overseers, Public Works Department	4
Local Fund Sub-Overseers	3
Sub-Overseers in Native States	2
Revenue Department (Minor Irrigation Sub-Overseers)	2
River Conservancy Inspector	1
Anicut Superintendent	1
Irrigation Conservancy Sub-Overseer	1
Instructor, Technical Institute	1
Total ...	23

The two remaining persons have furnished no information.

Draftsmen.—Of the thirteen draftsmen, who obtained certificates in December 1905, eleven obtained employment as under:—

Temporary draftsman, Public Works Department	10
Burma	1
Total ...	11

The remaining two students failed to furnish information.

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

19. *College committee.*—In the Administration Report for 1905 allusion was made to the labours of the Committee appointed by Government to revise the syllabuses and curriculum of the college, and to the preliminary orders passed by Government in G.O., No. 655, Educational, dated 3rd October 1905, on the Committee's report of the 31st March. As a result of those orders, the Committee presented a further report on the 2nd January 1906, and Government passed final orders thereon in G.O., No. 657, Educational, dated 10th October 1906. In the final orders the location of a residential college at Saidapet is approved, and the preparation of plans and estimates for new buildings is entrusted to a special officer of the Public Works Department. The rules for military students are not to be assimilated to those in force at Roorkee, but the non-commissioned officers and men will spend a probationary year at the college before they join the Upper Subordinate class. A Board of visitors is constituted pending decision as to whether the college is to remain under the control of the Director of Public Instruction; and a few minor modifications of the preliminary orders are made. Directions are given for the drafting of revised rules by the Principal, and this work was in hand before the end of the year.

20. *Text-books.*—Sanction was accorded some time ago to the republication of the College Manual of Irrigation Works. The author of the original manual, Mr. B. O. Reynolds, undertook to re-write the volume, and the new and enlarged work which consists of fresh matter throughout was issued during the year under review.

I received permission to publish at my own expense, some notes of lectures on Elementary Applied Mechanics, and this work, which it is hoped may prove useful to the college, was put in hand before the close of the year.

21. *Financial details.*—On reference to appendix G it will be found that the receipts of the college amounted to Rs. 31,019-15-6 and the charges to Rs. 1,14,084-12-4. The net cost of the institution to Government was therefore Rs. 83,064-12-10. Dividing this sum by the average number of students on the rolls, it appears that the net cost of educating each student was Rs. 282. The increase in this figure over that of the previous year, Rs. 229, is mainly due to the appointment of a second Professor of Engineering. There was, however, enhanced expenditure under Principal, Board of Examiners and various heads of contingencies. Full financial details for the official year 1905-1906 were submitted with the annual returns. An abstract of receipts and charges for the last five calendar years is given in appendix H.

22. *General.*—I have received throughout the year the cordial co-operation of the members of the staff. Mr. James, the Professor of Engineering, has laboured with his accustomed enthusiasm in the lecture room, in the workshops and laboratories, and in the recreation ground. Mr. Ryves, temporary Professor of Civil Engineering, has devoted careful attention to the instruction of all classes in surveying, especially to the work in camp which he arranged and controlled, and to the practical examination of the students in this important subject. M.R.Ry. B. Hanumanta Rau carried on his labours with his usual ability, and was instrumental in arranging University lectures on modern methods of teaching mathematics which were delivered during the Christmas holidays at this college and at two other centres in the Presidency. Four of the College Assistant Instructors acted as demonstrators at these lectures. Messrs. Reynolds and Webster, the Chief Instructors in Civil and Mechanical Engineering, have rendered me every assistance and have moreover performed work lying outside their normal sphere. M.R.Ry. V. S. Gnanaprakasam, the temporary Instructor in

Surveying, has rendered all the help in his power to the Professor of Civil Engineering. The whole body of assistants has worked well. Several of them have been noticed incidentally in the report, but I may indicate M.R.Rys. S. Subrahmanya Aiyar, C. V. Narayanaswami Aiyar and V. S. Pranatartihara Aiyar as deserving of special commendation.

It gives me particular satisfaction to notice so favourably the work of the staff during the year, as this is probably the last occasion on which it will fall to my lot to pen the administration report of this college.

Appendix A.

Distribution of students according to classes of community on the 31st December 1906.

Classes.	European and Eurasians.	Native Christians.	Muhammadans.	Hindus.			Total.
				Brahmans.	Non-Brahman caste Hindus.	Panchamas.	
Engineer classes	..	2	1	47	6	..	56
Engineer Subordinate classes	11	2	4	76	7	..	100
Sub-Overseer and Surveyor classes ..	..	1	3	39	29	..	72
Draftsman classes	..	6	1	35	22	..	64
Total ..	11	11	9	197	64	..	292

Appendix B.

Distribution of students by districts on the 31st December 1906.

Districts.	Engineer class.	Engineer Subordinate class.	Sub-Overseer and Surveyor class.	Draftsman class.	Total.
Ganjám	..	..	..	..	..
Vizagapatam	..	1	1	..	2
Gódávari	2	3	1	2	8
Kistna	2	5	9	7	23
Bellary	..	..	1	..	1
Kurnool	..	..	..	2	2
Nellore	..	1	1	1	3
Madras	1	4	3	6	14
Chingleput	2	1	3	6	12
Cuddapah	..	..	1	..	1
North Arcot	4	..	2	2	8
South Arcot	..	2	4	2	8
Tanjore	14	25	23	14	76
Trichinopoly	4	11	4	8	27
Madura	4	5	4	4	17
Tinnevelly	5	7	2	3	17
Coimbatore	..	12	3	3	18
Salem	2	4	4	3	13
Malabar	1	6	1	..	8
South Canara	1	3	1	..	5
Pudukkóttai	1	1	..	..	2
Cochin	1	..	1	..	2
Travancore	9	1	2	..	12
Mysore	3	1	..	..	4
Pondicherry	..	..	..	1	1
Hyderabad (Deccan)	..	..	1	..	1
Military students	..	7	..	..	7
Total ..	56	100	72	64	292

Appendix C.

Distribution of students by wealth and occupation of parents on the 31st December 1906.

Classes in the College.	Wealth.				Occupation.							
	Richer class.	Middle class.	Poorer class.	Total.	Officials.	Petty officials.	Traders.	Landholders.	Artisans.	Mendicants.	Others.	Total.
Engineer class—												
Third year	1	17	1	19	9	1	1	8	..	..	..	19
Second year	..	15	4	19	11	2	1	5	..	..	..	19
First year	..	18	..	18	6	..	2	10	..	..	..	18
Engineer Subordinate class—												
Third year	4	27	1	32	14	1	3	14	..	..	..	32
Second year	1	31	1	33	12	3	6	8	1	..	3	33
First year	4	29	2	35	16	1	12	6	..	..	..	35
Sub-Overseer and Surveyor class—												
Second year	1	27	4	32	13	2	5	11	.	..	1	32
First year	..	38	2	40	15	2	4	19	..	..	..	40
Draftsman class—												
Second year	..	26	4	30	22	1	..	7	..	..	..	30
First year	1	33	..	34	18	..	3	13	..	..	..	34
Total ..	12	261	19	292	136	13	37	101	1	..	4	292

Appendix D.

Results of examinations of December 1906.

	PER CENT.	Average of preceding four years. PER CENT.
Engineer class, 1st division—		
Mathematics	57·7	61
Science	46·2	50
Engineering	52·5	57
Drawing	54·7	62
Surveying	69·5	64
Language	64·2	62
Gymnastics	74·9	56
Total ...	56·8	59
Engineer Subordinate class, 1st division—		
Mathematics	48·4	56
Engineering	52·6	55
Drawing	58·2	59
Surveying	69·2	63
Language	61·4	63
Physical Exercise	70·8	54
Total ...	57·7	59
Sub-Overseer and Surveyor class, 1st division—		
Surveying	61·2	60
Engineering	53·8	55
Drawing	52·1	58
Physical Exercise	71·4	52
Total ...	57·3	58
Draftsman class, 1st division—		
Geometrical, etc., Drawing	43·6	51
Building, Construction and Drawing	61·2	59
Machine Drawing	58·4	62
Estimating	54·8	55
Physical Exercise	69·2	48
Total ...	56·9	57

Appendix E.

	Average number on rolls.	Average daily attendance.
College department—		
Engineer class, third year	19·3	17·6
Do. second year	18·7	17·4
Do. first year	19·5	18·5
Engineer Subordinate class, third year	31·9	30·3
Do. second year	33·1	31·6
Do. first year	35·0	33·9
Total ...	157·5	149·3
School department—		
Sub-Overseer and Surveyor class, second year	32·0	29·8
Do. Do. first year	40·8	38·4
Draftsman class, second year	29·7	27·3
Do. first year	35·3	32·4
Total ...	137·8	127·9
Grand Total ...	295·3	277·2

Percentage of numbers present to number on rolls—

College Department	94·8
School do.	92·8

Appendix F.

Classification of vacancies notified during 1906.

—	Government.				Local Board and Municipality.				Railways.				Native States.				Private employers.				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.	Above Rs. 200.	Rs. 100 to 200.	Rs. 50 to 100.	Under Rs. 50.	
Engineer or Assistant ..	9	1	..	..	9	2	..	..	2	..	..	..	1	..	1	..	1	..	..	..	26
Supervisor ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Overseer ..	..	..	12	..	..	..	7	..	..	6	..	..	..	..	3	..	..	..	..	2	30
Sub-Overseer ..	..	..	2	3	..	..	4	7	..	..	..	..	..	..	..	..	..	..	..	1	17
Draftsman ..	..	..	5	8	..	..	1	5	..	1	4	..	..	..	..	..	..	..	2	2	28
Surveyor ..	..	..	19	..	..	..	4	1	..	..	..	..	..	..	..	..	..	..	3	..	27
Anicut or Conservancy Superintendent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	9	1	38	11	9	2	16	13	2	7	4	..	1	..	4	..	1	..	5	5	128

Appendix G.

Financial details for 1906.

				Rs.	A.	P.
Receipts—						
Tuition fees				21,194	11	0
Entrance and Final Examination fees				9,232	0	0
Miscellaneous receipts				593	4	6
		Total		31,019	15	6
Charges—						
Principal				19,227	0	0
Professors, masters and teachers				52,555	12	0
Clerks, librarian and servants				5,647	12	2
Board of Examiners				5,474	8	0
Library prizes and medals				1,014	14	1
Books and instruments				3,186	7	6
Other Europe stores				3,313	3	7
Other heads of contingent charges				15,988	1	7
Travelling allowances				1,325	0	3
Scholarships				4,119	3	2
Exchange compensation allowance				1,932	14	0
		Total		1,14,084	12	4

Net cost to Government	Rs.	83,064	12 10
Average number of students on rolls		295	
Net cost per student	Rs.	281	9 2
Average tuition fees paid per student per annum	Rs.	71	13 7

Appendix H.

Comparative financial details.

—	1906.	1905.	1904.	1903.	1902.
	Rs.	Rs.	Rs.	Rs.	Rs.
Receipts	31,020	30,920	29,408	29,490	28,656
Charges	1,14,085	98,371	95,162	96,040	94,731
Net cost to Government	83,065	67,450	65,754	66,550	66,075
	No.	No.	No.	No.	No.
Average number of students	295	294	274	292	300
	Rs.	Rs.	Rs.	Rs.	Rs.
Net cost per student	282	229	240	228	220

Proceedings, Dis. No. 2875 of 1907.

Recorded.

2. The report shows that nothing was omitted to be done during the year to ensure the efficient training of the students. The results of the University examinations were not satisfactory; but they are attributed by Colonel Love to their "unusual stringency."

3. Revised rules relating to the constitution and working of the college were sanctioned by Government in G.O., No. 159, Educational, dated 20th March 1907, with effect from 1st April 1907. The matter of accommodation is receiving attention.

4. The net cost of the institution to Government rose from Rs. 67,450 to Rs. 83,064 and the increase was due to the appointment of a second Professor of Engineering and to other increased expenditure under staff and contingencies.

5. Colonel Love's remarks on the good work done by his staff are noted; but it must have been due in no small measure to the zeal and energy which he himself infused into them by his example.

T. T. Logan,
Ag. Director of Public Instruction.

To the Principal, College of Engineering, with a spare copy.
,, Principals of other Government Colleges.
,, Inspectors of Schools.
,, Superintendent, School of Arts.
Copy to the President, Board of Examiners, College of Engineering, for information.
,, Chief Engineer, Public Works Department, for information.
,, Editors, *Indian Journal of Education* and *Educational Review*.
,, Government (with C.L.)

Order—No. 396, Educational, dated 20th June 1907.

Recorded.

(True Extract.)

H. D. Taylor,
Ag. Secretary to Government.

To the Director of Public Instruction.
Editors' Table.

9

FORT SAINT GEORGE.

EDUCATIONAL (1907) DEPARTMENT.

(Copy.)

LETTER to the Under Secretary of State for India.

No. 397, dated 20th June 1907.

FORWARDING copy of the proceedings recording the report on the working of the College of Engineering during 1906.

10

EDUCATIONAL DEPARTMENT.

Letter—to

The UNDER SECRETARY of STATE for INDIA.

Sir,

With reference to the instructions conveyed in Lord Hartington's despatch No. 9, Public Works, dated 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 during the year 1906.

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

Ootacamund,
20th June 1907.

H. D. TAYLOR,
Ag. Secretary to Government.

NOTES CONNECTED WITH G.O., Nos. 396, 397, EDUCATIONAL, DATED 20TH JUNE 1907.

[SUBJECT.—*Report on the working of the College of Engineering.*]

From the Director of Public Instruction, dated 15th May 1907, *No.* 3662.

The report does not seem to call for any special remarks. The usual draft is placed below for approval.

2. In the last paragraph of the report, Colonel Love notes that this will probably be the last report which he will have to write. Should anything be said of Colonel Love's retirement at present?

T. KANAKASUNDARAM PILLAI—2-6-07.

Colonel Love was appointed Principal of the College of Engineering permanently on 29th January 1880, and has continued as such ever since except when he was away on furlough. Should any appreciatory notice be made please of his work in the college in the orders on this report.

Vide pages 563 and 564 of the History of Gazetted officers.

K. RANGASWAMI AIYANGAR—2-6-07.

C. A. SOUTER—3-6-07.

Any reference to Colonel Love's services will more appropriately be made *next* year after he has retired. He does not retire till October.

H. D. TAYLOR—4-6-07.

G. S. F[ORBES]—6-6-07.

Issue.

H. D. TAYLOR—7-6-07.

[G.O., Nos. 396, 397, Educational, dated 20th June 1907.]

[E.]

1,500—12-12-

EDUCATIONAL DEPARTMENT.

12

CURRENT FILE.

CONTENTS.

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[1169] The D.P.I.	3662	15- 5 -07	1

[P. T. O. FOR PUT UP PAPERS.

PAPERS PUT UP WITH CURRENT No. _____

Papers of the department to which the current belongs.

Number.	Date.	Original (=O) or spare copy (=S. C.).	Remarks. (In this column such of the papers as have been removed for copying, printing, &c., should be marked with a cross.)	Initials of Referencer with date in token of return to Reference department.

Papers of other departments.

Department.	Number.	Date.	Original (=O) or spare copy (=S. C.).	Despatcher to note the return of the papers to the departments concerned.

Stock Form No. 135.
4,000—27-4-06.

To 383-4 = 1/06 Cr
To 655/05 Cr
" 657/06 "
" 159/07 Cr

Ed cpo 1169/13

LOCAL & MUNICIPAL SECRETARIAT 17 MAY 1907

EDUCATIONAL DEPARTMENT.

Received ..... 190 , *Registered* 17-5- 190 7.

Subject.

Submitting a copy of Proceedings Dis. No. 2875 dated 11th May 1907 reviewing the report on the working of the College of Engineering during 1906.

ENCLOSURES.
No. .....
.....
Spare copies .....

Cwr. No. 3662/07

Station Madras , *Dated the* 15th May 1907.

From (Name) The Hon'ble Mr. T.T. LOGAN, B.A.,

(Designation) Ag. Director of Public Instruction.

To the Secretary to the Government of Madras,
Educational Department.

Sir,

I have the honour to submit herewith a copy of my Proceedings Dis. No. 2875 dated 11th May 1907 reviewing the report on the working of the College of Engineering during 1906.

I have the honour to be,

Sir,

Your most obedient servant,

For Director of Public Instruction.

K.P.D.

16-5-07

2

14

2 Slips

Proceedings of the Director of Public Instruction.

Dis. No. 2875, 11th May 1907.

Despatched } 1907. Enclosures

Received } Spare copies

Subject:

College of Engineering, Madras.—Reviewing the report on the working of the — for the year 1906.

LOCAL & MUNICIPAL
17 MAY 1907
DEPT.

Dis. No. 2875.

PROCEEDINGS OF THE DIRECTOR OF PUBLIC INSTRUCTION, dated 11th May 1907.

College of Engineering.

Read the following letter from Colonel H. D. LOVE, R.E., Principal, College of Engineering, Madras, to the Director of Public Instruction, Madras, dated 27th March 1907, No. 2637-C:—

I have the honour to submit the Administration Report of the College of Engineering for the year 1906.

2. *Staff.*—Sanction was received to the re-engagement of Mr. R. A. Ryves, A.M. INST. C.E., temporary Professor of Civil Engineering, for a further period of one year from the 25th October 1906.

Sub-Conductor R. Cuthbert, Acting Instructor in Surveying and Drawing and Superintendent of Military Students, reverted to the Public Works Department on the forenoon of the 13th March 1906. M.R.Ry. V. S. Gnanaprakasam Pillai, Sub-Assistant Engineer, Madras Railway, replaced Sub-Conductor Cuthbert, as Instructor in Surveying and Drawing, substantive *pro tem.*, joining for duty in the Provincial Educational Service on the 28th June 1906. The duties of the post were carried on in the interim by the Professor of Civil Engineering and the Assistant Instructors.

Mr. B. O. Reynolds, Instructor in Civil Engineering, was appointed to act, in addition to his own duties, as Superintendent of Military Students, with effect from the date of reversion of Sub-Conductor R. Cuthbert.

Mr. J. Webster, Instructor in Mechanical Engineering, was re-appointed for a further term of five years on a salary of Rs. 450 per mensem from the 30th January 1906. He was granted leave on medical certificate from 1st May to 1st July on full pay, and from 2nd to 31st July on half pay.

M.R.Ry. C. V. Narayanaswami Aiyar was confirmed as Assistant Instructor in Surveying with retrospective effect from 1st November 1905.

During the year the creation of a new appointment of Instrument Repairer on Rs. 30—3—45 in lieu of the lapsed appointment of Foreman Blacksmith was sanctioned.

3. *Numbers.*—The numbers on the rolls at the end of the year were—

Class.	Practical course.	In College.			Total.
		Third year.	Second year.	First year.	
Engineer class	14	19	19	18	70
Engineer Subordinate class	31	*32	33	35	131
Sub-Overseer and Surveyor class	..	..	† 32	40	72
Draftsman class	..	..	‡ 30	34	64
Total	45	51	114	127	337

* Includes 1 casual student. † Includes 2 casual students. ‡ Includes 4 casual students.

Excluding the students on practical course, the total number actually in the college on the 31st December 1906 was 292. The corresponding totals for the last five years were—

Years.	Numbers.
1906	292
1905	293
1904	271
1903	292
1902	297

The distribution of the students by classes of the community, by districts, and by wealth and occupation of parents is given in Appendices A, B and C. Of the total number 67·5 per cent. were Brahmans, 21·9 per cent. non-Brahman caste Hindus, 3·7 per cent. Native Christians, 3·7 per cent. Europeans and Eurasians and 3·0 per cent. Muhammadans. The percentage of Brahmans has fallen a little this year while those of the non-Brahman caste Hindus, Europeans and Eurasians have slightly risen. The percentage of Native Christians remained stationary. As regards districts, Tanjore was represented by 26·0 per cent., Trichinopoly 9·2 per cent., Kistna 7·9 per cent., Coimbatore 6·1 per cent., Madura and Tinnevelly 5·8 per cent. each, Madras 4·8 per cent. and Chingleput and Travancore each 4·1 per cent. of the total number.

4. *Entrance examinations.*—The numbers offering for admission were—

Class.	Examined.	Passed.	Admitted.
Engineer class	* 27	22	20
,, Subordinate class	† 193	96	30
Sub-Overseer and Surveyor class	‡ 303	88	35
Draftsman class	$ 121	42	31

* Of these 5 had passed or appeared for the B.A. Degree examination.
† Of these 12 had passed the First-in-Arts Examination.
‡ Of these 33 had passed the Matriculation examination.
$ Of these 3 do. do.

The number of applicants for the Engineer Subordinate and Sub-Overseer and Surveyor classes shows a slight increase while that for the Engineer and Draftsman classes shows a marked diminution.

5. *Examinations of December* 1906.—Before enumerating the results of these examinations, it will be convenient to premise that students of the senior divisions of classes were, under the authority of the Director of Public Instruction, granted the option of presenting themselves for examination in the subjects studied during the final year only, or in all subjects. A few students, who had, through sickness or other cause, been unsuccessful at previous term examinations, took advantage of the second alternative. These are classed below as college independent candidates to distinguish them from the ordinary independent candidates who are ex-students presenting themselves in all subjects. The casual students mentioned below are persons who, after failure at a final examination, have been specially permitted to attend the college for a further period of instruction.

(*a*) *Engineer class.*—The third year division contained 19 students. Of these 18 appeared for the final examination as college students and 15 passed. The average percentage of the total marks was 56·8. One of the college students presented himself as an independent candidate but failed. The second and first year divisions of the class containing 19 and 18 students, respectively, appeared for the term examinations, and obtained 54·8 and 55·0 per cent., respectively, of the total marks.

(*b*) *Engineer Subordinate class.*—The senior division contained 31 students exclusive of one casual student. Of these, 27 appeared for the final examination as college students and 23 were successful. The average percentage of marks gained was 57·7. The remaining four college students presented themselves as independent candidates together with one casual and nine outside candidates, and four passed (two college independent and two ordinary independent candidates). The intermediate and junior divisions of 33 and 35 students, respectively, appeared for the term examinations and secured 59·6 and 48·6 per cent. of the total marks, respectively.

(*c*) *Sub-Overseer and Surveyor class.*—In the senior division of this class there were 30 students, exclusive of two casual students. Of these, 24 students appeared for the final examination as college students and 18 passed. The average marks obtained were 57·3 per cent. The remaining six students presented themselves as independent candidates together with two casual and 16 ex-students. Ten of these passed (three college independent, one casual and six ordinary independent candidates). The junior division of the class containing 40 students appeared for the term examination and secured an average of 59·0 per cent. of the total marks.

(*d*) *Draftsman class.*—There were 26 students in the senior division exclusive of four casual students. Of these, 20 appeared for the final examination as college students and 12 passed, two in the first class and the remainder in the second. The average marks gained were 56·9 per cent. The remaining 6 students presented themselves as independent candidates together with 3 casual and 24 ex-students. Five of these passed (one college independent and four ordinary independent candidates). The remaining casual student needed and obtained qualification in the college total only. The junior division of the class which contained 34 students appeared for the term examination and obtained an average of 54·1 per cent. of the total marks.

6. *Examination results.*—The percentages of marks secured under the various subject heads by the senior divisions of the classes are compared in Appendix D with the average results of the preceding four years.

7. *Honours and Distinctions.*—The college medals were awarded as follows to students of the senior class divisions of 1906 :—

Gold Medal	...	M. Parameswaram Pillai, Engineer class.
Silver Medal	...	M. B. Krishnaswami Aiyangar, Engineer Subordinate class.
Bronze Medal	...	M. S. Srinivasa Rau, Sub-Overseer and Surveyor class.
Do.	...	R. Dumont, Draftsman class.

The Rao Bahadur S. Subbaraya Chariyar gold medal and also the J. A. Jones prize were awarded by the University on the results of the B.E. degree examination of 1906 to T. N. Venkatarama Aiyar, B.A.

A former student of the college, who desires for the present to remain anonymous, presented a gold medal in 1906 in memory of Mr. W. B. de Winton, C.I.E., late Chief Engineer, Public Works Department, for proficiency in Hydraulic Engineering. The medal was won by Engineer students M. P. Mani, on the results of the examinations of 1905, and V. S. Srinivasa Raghavachari on those of 1906. The donor proposes to endow the medal in due course.

8. *Practical courses.*—Fourteen Engineer and 31 Engineer Subordinate students were under practical training from February 1906. Seven of the Engineer students, including the senior of the batch, who elected to become Mechanical Engineers, attended a workshop course—4 in the Public Works Workshops at Madras, 2 in those at Bezwada and 1 at Dowlaishweram. Seven who desired to become Civil Engineers worked in Public Works Divisions. One of the Mechanical Engineer students was, on the results of a competitive examination, appointed Assistant Examiner in the Public Works Department and joined his appointment before the termination of his practical course.

The Engineer Subordinate pupils, including Bombardier H. S. Taylor, a military student who qualified in December 1903 and who was ordered to rejoin for his practical course under the provisions of Gazette notification of 5th July 1904, went through the course in Public Works Divisions. The reports received from Executive Engineers were generally favourable. Nine students, who though successful at the final examination had not met college requirements in practical surveying, attended the survey camp held in July 1906 for further instruction for about a month, their practical course being extended by a corresponding period. The course of two other students also was extended owing to their absence on sick leave.

Both the Engineer and Engineer Subordinate students attended the Body Guard Riding School for the equitation course.

9. *Military students.*—The number of military students at the end of the year was 8, distributed as follows :—

Practical course			1
Engineer Subordinate class, senior division			1
Do.	do.	intermediate division	1
Do.	do.	junior division	5

The Military student in the senior division proved unsuccessful at the final examination of 1906 and reverted to his regiment.

10. *Survey camp.*—The annual survey camp was formed on ground about Poonamallee, St. Thomas' Mount and Pallávaram and maintained for four weeks. The Professor of Civil Engineering remained in camp throughout the period and controlled the work. Mr. Ryves was aided by the Instructor in Surveying and Drawing and five Assistants. This is the first occasion on which it has been found possible for a Professor to remain continuously in camp. The number of students attending the camp was 231. They found accommodation in the villages, while the staff and European and Eurasian students used the College tents supplemented by two others lent by the Executive Engineer, Chingleput Division. One additional tent has since been purchased for the College. Temporary drawing offices were erected at Poonamallee and St. Thomas' Mount, and bungalows were hired at Pallávaram. The work done was ample in amount and was on the whole of good quality. The cost of the camp was Rs. 2,918–9–6.

11. *Inspections.*—Two divisions of the Engineer class and two of the Engineer Subordinate class in charge of the Professor of Engineering, two Instructors and two Assistants, spent ten days in September in inspecting Irrigation works in the Cauvery Delta System. In the following month a five days' tour by one division of the Engineer Subordinate class, two divisions of the Sub-Overseer and Surveyor class, and one of the Draftsman class in charge of three Assistant Instructors was undertaken for the inspection of the Madras water-supply system. The cost of the two tours, in which 229 students took part, aggregated Rs. 792–13–9.

The usual inspections of Engineering works in Madras were made by individual class divisions.

12. *Workshop and laboratories.*—The Professor of Engineering in charge of Workshops and Laboratories, Mr. W. H. James, reports as follows :—

The number of students attending the workshop was—

Engineer students	61
Engineer Subordinate students	100
Sub-Overseer and Surveyor students	72
Draftsman students	67

"As usual the draftsman students only attended during the time the other students were out at Survey camp.

"Considering the very limited time, only two hours a week devoted to workshop practice, the progress made by the majority of students was quite satisfactory, and a few students showed considerable promise. Each year however the Sub-Overseer and Surveyor classes leave the impression that they are wanting in keenness and that they take little interest in the work. As pointed out previously this is probably due to the fact that they get no marks for workshop practice, a mistake which has been avoided in the new scheme for the allotment of marks.

"No application has been received for several years past for the Government apprenticeships, which carry subsistence allowances, and it might be advisable to draw attention through the usual channels to the advantages attaching to these appointments.

"The experimental work in connection with the determination of quantities for mortar and concrete, and the mortar tests for the Tungabhadra Project were completed during the year, and the results are now being collated. In addition, mortar investigations for the Divi Pumping and Nagavalli Projects, and a considerable amount of testing work for instructional and other purposes were carried out. A further research for the Cauvery Project is now being taken in hand, and it is hoped some progress will also be made in the matter of an investigation of the elastic

properties of timber on which a start was made some time ago. I have to acknowledge the assistance I have received in this work from Mr. Reynolds, Mr. Webster and M.R.Ry. Narayanaswami Aiyar.

"The only addition of any importance to the machine tools during the past year is a useful band-saw, and to make room for it we have had to crowd our benches still more together to the great inconvenience of both staff and students. Our urgent need for proper workshop and laboratory accommodation having been recognised by Government, it only remains to emphasise the fact that it will not be possible to undertake the specialised teaching suggested in the new syllabuses for Civil and Mechanical Engineering until something is actually done in the matter. Meanwhile with the new classes entering the College in July next, our inadequate accommodation will be even more severely felt, and the efficiency of the teaching to some extent affected."

13. *Physical training and recreation.*—Instruction in gymnastics was given as usual. The Military drill hitherto carried out having never proved altogether satisfactory, dumb-bell exercises and physical drill were last year substituted for marching and formations, and the result has been an increase of interest on the part of the students and improved results at the final examination. I am indebted to Mr. Reynolds for much assistance in the introduction and supervision of the new drill. Still greater improvement may be expected with a larger allotment of marks for drill and gymnastics, the marks being awarded annually, and not at the final examination only.

The Honorary Secretary of the Recreation Club, Mr. W. James, reports as follows :—

"The various clubs were well supported during the past year, and as a result of endeavours by some members of the staff, the attendance of students on the recreation ground was better in some degree than previous years.

"College teams as usual took part in the competitions of the Madras Collegiate Athletic Association and, considering all the circumstances, met with a fair measure of success. The College was second both for the Inter-Collegiate Foot-ball Championship and the Travancore Athletic Trophy, and third for the Professor's Cricket Trophy.

"The inter-class matches were well contested. The Cricket cup was won by the senior division of the Draftsman class, and considerable credit is due to the third division of the Engineer Subordinate class in that they succeeded in carrying off both the Hockey and Foot-ball cups within a few months of their joining the College.

"The extension to the recreation ground has been made fit for use and provides possibly the best hockey ground in Madras.

"The experiment was tried during the year of forming elected student-committees to look after the affairs of the several subsidiary clubs. They undoubtedly had the effect of stimulating the interest taken by the general body of students in the club, and they were of some assistance in other directions, but it is confidently anticipated that this year will see a considerable increase in the measure of their usefulness.

"M.R.Ry. Subrahmanya Aiyar informs me that good use was made of the magazines and periodicals supplied to the reading room. In this connection I beg again to point out that the income of the club is insufficient for the carrying out properly and efficiently of what may be termed its legitimate functions as an athletic club, and it would be of some assistance if the expenditure in the reading room could be met from other sources.

"I wish to take this opportunity of acknowledging the cheerful assistance I have received from Mr. Reynolds, Mr. Webster and M.R.Ry. Subrahmanya Aiyar in conducting the affairs of the club."

14. *Library.*—Progress was made with the rearrangement of the library and the preparation of a new catalogue which were commenced in the preceding year. The work advanced but slowly however, and necessitated the imposition of restrictions on the issue of books. Less use was consequently made of the library by students. During the year 86 books were added, bringing the total up to 4,559 volumes. The

number of books issued to the students and staff were 1,080 and 598 respectively against 1,906 and 545 in the previous year, while 468 references were made to the Consulting Library.

15. *Attendance and conduct.*—The percentage of numbers present to numbers on the rolls was 94·8 for the College department and 92·8 for the School department. Particulars are given in appendix E. The conduct of students was, on the whole, satisfactory, but instances were noticed of impatience of discipline, a feature which is regretted as this College has hitherto enjoyed a high reputation for the discipline and good order of its pupils. The most conspicuous case occurred when a third part of a class division submitted medical certificates to avoid proceeding on an unpopular inspection tour. The action in this and other instances was met by the withdrawal throughout the College of the privilege hitherto enjoyed by students of obtaining sick leave on certificates signed by qualified private medical practitioners.

16. *Casualties.*—A first-year student of the Engineer class was accidentally drowned in September while bathing in the Cauvery at Elamanur in disobedience of orders during an inspection tour. His body was recovered within half an hour, but all efforts at resuscitation proved unsuccessful. Another student of the same class division, a Mysore State scholar, died of enteric fever in June.

17. *University examinations.*—Four students of the senior division of the Engineer class appeared for the B.E. Degree Examination in January 1906 and one passed in the Civil Branch. Nine ex-students also presented themselves for the examination, but only one was successful in the mechanical branch.

Twenty-eight candidates offered themselves for the First Examination in Engineering, of whom twenty were second-year students and eight third year. Eight were successful in all, of whom four were second-year and the remainder third-year students. Four ex-students also appeared for this examination without success

These results cannot be viewed as satisfactory. I do not however regard the college students who presented themselves for the examinations as being below the average of previous years. I attribute the absence of better results to unusual stringency on the part of the University examiners, especially in the papers on Drawing. In the F.E. Examination the second-year students are placed at a disadvantage, since the standard of marking is virtually set by the third-year students.

18. *Employment of passed students of* 1905.—Of the eleven Engineers who completed their practical courses early in 1906, the senior G. Ramaswami Aiyar, was appointed Assistant Engineer in the Provincial Service of the Public Works Department on Rs. 250 ; one entered the Burma Public Works Department as a temporary Engineer ; one obtained employment as Assistant Engineer under the Madura District Board ; five accepted appointments as temporary Upper Subordinates in the Public Works Department ; one became a Local Fund Overseer and one joined the Revenue Department as Engineering Assistant, Agricultural and Pumping Experiments. No information has been received regarding the remaining Engineer.

Of the nineteen Engineer Subordinates who completed their practical course early in 1906, the senior V. Venkatasuryanarayana was appointed a permanent Upper Subordinate, third grade, in the Public Works Department, on Rs. 60, while the two military apprentices were posted as Upper Subordinates, first grade. The remaining sixteen joined the Public Works Department as temporary Upper Subordinates.

Sub-Overseers and Surveyors.—Of the twenty-five Sub-Overseers and Surveyors who passed out in December 1905, twenty-three obtained employment as follow :—

Temporary Surveyors, Public Works Department	8
Sub-Overseers, Public Works Department	4
Local Fund Sub-Overseers	3
Sub-Overseers in Native States	2
Revenue Department (Minor Irrigation Sub-Overseers)	2
River Conservancy Inspector	1
Anicut Superintendent	1
Irrigation Conservancy Sub-Overseer	1
Instructor, Technical Institute	1
Total ...	23

The two remaining persons have furnished no information.

Draftsmen.—Of the thirteen draftsmen, who obtained certificates in December 1905, eleven obtained employment as under:—

Temporary draftsman, Public Works Department	10
Burma	1
Total ...	11

The remaining two students failed to furnish information.

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

19. *College committee.*—In the Administration Report for 1905 allusion was made to the labours of the Committee appointed by Government to revise the syllabuses and curriculum of the college, and to the preliminary orders passed by Government in G.O., No. 655, Educational, dated 3rd October 1905, on the Committee's report of the 31st March. As a result of those orders, the Committee presented a further report on the 2nd January 1906, and Government passed final orders thereon in G.O., No. 657, Educational, dated 10th October 1906. In the final orders the location of a residential college at Saidapet is approved, and the preparation of plans and estimates for new buildings is entrusted to a special officer of the Public Works Department. The rules for military students are not to be assimilated to those in force at Roorkee, but the non-commissioned officers and men will spend a probationary year at the college before they join the Upper Subordinate class. A Board of visitors is constituted pending decision as to whether the college is to remain under the control of the Director of Public Instruction; and a few minor modifications of the preliminary orders are made. Directions are given for the drafting of revised rules by the Principal, and this work was in hand before the end of the year.

20. *Text-books.*—Sanction was accorded some time ago to the republication of the College Manual of Irrigation Works. The author of the original manual, Mr. B. O. Reynolds, undertook to re-write the volume, and the new and enlarged work which consists of fresh matter throughout was issued during the year under review.

I received permission to publish at my own expense, some notes of lectures on Elementary Applied Mechanics, and this work, which it is hoped may prove useful to the college, was put in hand before the close of the year.

21. *Financial details.*—On reference to appendix G it will be found that the receipts of the college amounted to Rs. 31,019-15-6 and the charges to Rs. 1,14,084-12-4. The net cost of the institution to Government was therefore Rs. 83,064-12-10. Dividing this sum by the average number of students on the rolls, it appears that the net cost of educating each student was Rs. 282. The increase in this figure over that of the previous year, Rs. 229, is mainly due to the appointment of a second Professor of Engineering. There was, however, enhanced expenditure under Principal, Board of Examiners and various heads of contingencies. Full financial details for the official year 1905-1906 were submitted with the annual returns. An abstract of receipts and charges for the last five calendar years is given in appendix H.

22. *General.*—I have received throughout the year the cordial co-operation of the members of the staff. Mr. James, the Professor of Engineering, has laboured with his accustomed enthusiasm in the lecture room, in the workshops and laboratories, and in the recreation ground. Mr. Ryves, temporary Professor of Civil Engineering, has devoted careful attention to the instruction of all classes in surveying, especially to the work in camp which he arranged and controlled, and to the practical examination of the students in this important subject. M.R.Ry. B. Hanumanta Rau carried on his labours with his usual ability, and was instrumental in arranging University lectures on modern methods of teaching mathematics which were delivered during the Christmas holidays at this college and at two other centres in the Presidency. Four of the College Assistant Instructors acted as demonstrators at these lectures. Messrs. Reynolds and Webster, the Chief Instructors in Civil and Mechanical Engineering, have rendered me every assistance and have moreover performed work lying outside their normal sphere. M.R.Ry. V. S. Gnanaprakasam, the temporary Instructor in

Surveying, has rendered all the help in his power to the Professor of Civil Engineering. The whole body of assistants has worked well. Several of them have been noticed incidentally in the report, but I may indicate M.R.Rys. S. Subrahmanya Aiyar, C. V. Narayanaswami Aiyar and V. S. Pranatartihara Aiyar as deserving of special commendation.

It gives me particular satisfaction to notice so favourably the work of the staff during the year, as this is probably the last occasion on which it will fall to my lot to pen the administration report of this college.

APPENDIX A.

Distribution of students according to classes of community on the 31st December 1906.

Classes.	European and Eurasians.	Native Christians.	Muhammadans.	Hindus.			Total.
				Brahmans.	Non-Brahman caste Hindus.	Panchamas.	
Engineer classes	..	2	1	47	6	..	56
Engineer Subordinate classes	11	2	4	76	7	..	100
Sub-Overseer and Surveyor classes ..	..	1	3	39	29	..	72
Draftsman classes	..	6	1	35	22	..	64
Total ..	11	11	9	197	64	..	292

APPENDIX B.

Distribution of students by districts on the 31st December 1906.

Districts.	Engineer class.	Engineer Subordinate class.	Sub-Overseer and Surveyor class.	Draftsman class.	Total.
Ganjám	..	..	..	..	..
Vizagapatam	..	1	1	..	2
Gódávari	2	3	1	2	8
Kistna	2	5	9	7	23
Bellary	..	..	1	..	1
Kurnool	..	..	..	2	2
Nellore	..	1	1	1	3
Madras	1	4	3	6	14
Chingleput	2	1	3	6	12
Cuddapah	..	..	1	..	1
North Arcot	4	..	2	2	8
South Arcot	..	2	4	2	8
Tanjore	14	25	23	14	76
Trichinopoly	4	11	4	8	27
Madura	4	5	4	4	17
Tinnevelly	5	7	2	3	17
Coimbatore	..	12	3	3	18
Salem	2	4	4	3	13
Malabar	1	6	1	..	8
South Canara	1	3	1	..	5
Pudukkóttai	1	1	..	..	2
Cochin	1	..	1	..	2
Travancore	9	1	2	..	12
Mysore	3	1	..	..	4
Pondicherry	..	..	..	1	1
Hyderabad (Deccan)	..	..	1	..	1
Military students	..	7	..	..	7
Total ..	56	100	72	64	292

Appendix C.

Distribution of students by wealth and occupation of parents on the 31st December 1906.

Classes in the College.	Wealth.				Occupation.							
	Richer class.	Middle class.	Poorer class.	Total.	Officials.	Petty officials.	Traders.	Landholders.	Artisans.	Mendicants.	Others.	Total.
Engineer class—												
Third year	1	17	1	19	9	1	1	8	..	..	..	19
Second year	..	15	4	19	11	2	1	5	..	..	..	19
First year	..	18	..	18	6	..	2	10	..	..	..	18
Engineer Subordinate class—												
Third year	4	27	1	32	14	1	3	14	..	..	..	32
Second year	1	31	1	33	12	3	6	8	1	..	3	33
First year	4	29	2	35	16	1	12	6	..	..	..	35
Sub-Overseer and Surveyor class—												
Second year	1	27	4	32	13	2	5	11	.	..	1	32
First year	..	38	2	40	15	2	4	19	..	..	..	40
Draftsman class—												
Second year	..	26	4	30	22	1	..	7	..	..	..	30
First year	1	33	..	34	18	..	3	13	..	..	..	34
Total ..	12	261	19	292	136	13	37	101	1	..	4	292

Appendix D.

Results of examinations of December 1906.

	PER CENT.	Average of preceding four years. PER CENT.
Engineer class, 1st division—		
Mathematics	57·7	61
Science	46·2	50
Engineering	52·5	57
Drawing	54·7	62
Surveying	69·5	64
Language	64·2	62
Gymnastics	74·9	56
Total ...	56·8	59
Engineer Subordinate class, 1st division—		
Mathematics	48·4	56
Engineering	52·6	55
Drawing	58·2	59
Surveying	69·2	63
Language	61·4	63
Physical Exercise	70·8	54
Total, ...	57·7	59
Sub-Overseer and Surveyor class, 1st division—		
Surveying	61·2	60
Engineering	53·8	55
Drawing	52·1	58
Physical Exercise	71·4	52
Total ...	57·3	58
Draftsman class, 1st division—		
Geometrical, etc., Drawing	43·6	51
Building, Construction and Drawing	61·2	59
Machine Drawing	58·4	62
Estimating	54·8	55
Physical Exercise	69·2	48
Total ...	56·9	57

Appendix E.

	Average number on rolls.	Average daily attendance.
College department—		
Engineer class, third year	19·3	17·6
Do. second year	18·7	17·4
Do. first year	19·5	18·5
Engineer Subordinate class, third year	31·9	30·3
Do. second year	33·1	31·6
Do. first year	35·0	33·9
Total ...	157·5	149·3
School department—		
Sub-Overseer and Surveyor class, second year	32·0	29·8
Do. Do. first year	40·8	38·4
Draftsman class, second year	29·7	27·3
Do. first year	35·3	32·4
Total ...	137·8	127·9
Grand Total ...	295·3	277·2

Percentage of numbers present to number on rolls—

College Department	94·8
School do.	92·8

Appendix F.

Classification of vacancies notified during 1906.

—	Government.				Local Board and Municipality.				Railways.				Native States.				Private employers.				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.	Above Rs. 200.	Rs. 100 to 200.	Rs. 50 to 100.	Under Rs. 50.	
Engineer or Assistant ..	9	1	..	..	9	2	..	..	2	..	..	..	1	..	1	..	1	..	..	..	26
Supervisor ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Overseer ..	..	..	12	..	..	..	7	..	..	6	..	..	..	..	3	..	..	..	..	2	30
Sub-Overseer ..	..	..	2	3	..	..	4	7	..	..	..	..	..	..	..	..	..	..	..	1	17
Draftsman ..	..	..	5	8	..	..	1	5	..	1	4	..	..	..	..	..	..	..	2	2	28
Surveyor ..	..	..	19	..	..	..	4	1	..	..	..	..	..	..	..	..	..	..	3	..	27
Anicut or Conservancy Superintendent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	9	1	38	11	9	2	16	13	2	7	4	..	1	..	4	..	1	..	5	5	128

Appendix G.

Financial details for 1906.

		Rs.	A.	P.
Receipts—				
Tuition fees		21,194	11	0
Entrance and Final Examination fees		9,232	0	0
Miscellaneous receipts		593	4	6
	Total	31,019	15	6
Charges—				
Principal		19,227	0	0
Professors, masters and teachers		52,555	12	0
Clerks, librarian and servants		5,647	12	2
Board of Examiners		5,474	8	0
Library prizes and medals		1,014	14	1
Books and instruments		3,186	7	6
Other Europe stores		3,313	3	7
Other heads of contingent charges		15,988	1	7
Travelling allowances		1,325	0	3
Scholarships		4,419	3	2
Exchange compensation allowance		1,932	14	0
	Total	1,14,084	12	4

Net cost to Government	Rs.	83,064	12 10
Average number of students on rolls	295		
Net cost per student	Rs.	281	9 2
Average tuition fees paid per student per annum	Rs.	71	13 7

Appendix H.

Comparative financial details.

—	1906.	1905.	1904.	1903	1902.
	Rs.	Rs.	Rs.	Rs.	Rs.
Receipts	31,020	30,920	29,408	29,490	28,656
Charges	1,14,085	98,371	95,162	96,040	94,731
Net cost to Government	83,065	67,450	65,754	66,550	66,075
	No.	No.	No.	No.	No.
Average number of students	295	294	274	292	300
	Rs.	Rs.	Rs.	Rs.	Rs.
Net cost per student	282	229	240	228	220

Proceedings, Dis. No. 2875 of 1907.

Recorded.

2. The report shows that nothing was omitted to be done during the year to ensure the efficient training of the students. The results of the University examinations were not satisfactory; but they are attributed by Colonel Love to their "unusual stringency."

3. Revised rules relating to the constitution and working of the college were sanctioned by Government in G.O., No. 159, Educational, dated 20th March 1907, with effect from 1st April 1907. The matter of accommodation is receiving attention.

4. The net cost of the institution to Government rose from Rs. 67,450 to Rs. 83,064 and the increase was due to the appointment of a second Professor of Engineering and to other increased expenditure under staff and contingencies.

5. Colonel Love's remarks on the good work done by his staff are noted; but it must have been due in no small measure to the zeal and energy which he himself infused into them by his example.

/Signed/ J. J. Logan,

Ag. Director of Public Instruction.

To the Principal, College of Engineering, with a spare copy.
" Principals of other Government Colleges.
" Inspectors of Schools.
" Superintendent, School of Arts.

Copy to the President, Board of Examiners, College of Engineering, for information.
" Chief Engineer, Public Works Department, for information.
" Editors, *Indian Journal of Education* and *Educational Review*.
" Government (with C.L.).

(True Copy.)

Personal Asst. to the Director of Public Instruction.

[E 2.]
1,000—10-11-06.

Educational Department.

C. No. 1169 From the D.P.I. No. 3662, dated 15-5-1907.

SUBJECT.

Report on the working of the College of Engg.

Pages 1 to 5 of C.

The report does not seem to call for any special remarks. The usual draft is placed below for approval.

2. In the last para. of the report, Col. Love notes that this will probably be the last report which he will have to write. Should anything be said of Col. Love's retirement at present?

T.H. 2-6-07

Col Love was appointed Principal of the College of Engineering permanently on 29th January 1880, and has continued as such ever since, except when he was away on furlough. Should any appreciatory notice be made please of this work in the College, in the orders on this report?

vide pages 563 & 564 of the History of Depttl officers.

H.D. 2-6-07

Lee
Chs
3.6.7.

Any reference to Col Love's services will more appropriately be made next year, after he has retired. He does not retire until October

H.D. 4.6.07

W.M.

8176

16 22

EDUCATIONAL DEPARTMENT.

[E. / 12.]
1,000—6-12-06.

3P

READ AGAIN G.O., No. ....., dated ..... 190 .

" " " " ....., " ..... 190 .

READ ALSO:—

C. No. 1169, From the D.P.I., No. 3662, dated 15-5- 1907.

" ", ", ", ", " 190

" " ", ", ", " 190

ORDER. No. 396, dated 20-6- 1907.

P.S.

[To be numbered in print]

Recorded.

HD 4.6.07.

7.6.07 HD 26.6.07

Letter to 397 & 20-6-07.

The Under Secy. of State for India.

Sir,

With ref. 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 Pro. of the madras Govt recording the report on the working of the College of Eng during the year 1906

7.6.07 HD 26.07 Cbs 3.6.7 HD

DP 7/6/07 Sent 2/7/7

To D.P.I. E.T.

Sent with Encl. 4/7/7

Cf letter on pages 13 of P.C. 383-387 Est, 5 & 12 June 1906-O.

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GAIN G.O., No. , DATED
190 .

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NUMBER OF COPIES REQUIRED. { Order complete 50 / Letter only / Order complete with Letter.

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Q.

10/6/07

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