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ORIGINAL

[Despatch Abstract.]

College of Engineering

Reviewing the report on the working of the ____ during the year 1901.

BACK PAPERS.

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

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Government {1902} of Madras.

EDUCATIONAL.

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ORIGINAL

G.O., No. 322, 29th May 1902.

N. P.

MAY.

College of Engineering.

Reviewing the report on the working of the — during the year 1901.

GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

Read—the following paper :—

From the Hon'ble Mr. G. H. STUART, M.A., Director of Public Instruction, Madras, to the Secretary to Government, Educational Department, dated 7th May 1902, Cur. No. 3657.

I have the honour to submit, for the information of Government, a copy of my Proceedings, Dis. No. 2475, dated 29th April 1902, reviewing the report on the working of the College of Engineering, Madras, for the year 1901.

Enclosure.

Proceedings, Dis. No. 2475, dated 29th April 1902.

Read the following letter from Lieutenant-Colonel H. D. LOVE, R.E., Principal, College of Engineering, Madras, to the Director of Public Instruction, dated 5th March 1902, No. 1981-C. :—

I have the honour to submit the Administration Report of the College of Engineering for the year 1901.

2. *Staff.*—Mr. Chatterton, Professor of Mechanical Engineering, was transferred in February 1901 to special duty for three years. Mr. W. H. James, Assistant Professor of Engineering at University College, Cardiff, was appointed by the Secretary of State to the vacant chair. Until the arrival of Mr. James in June, Mr. Chatterton's duties were performed by the Principal.

The chair of Civil Engineering was not filled during the year. The duties of the Professor were performed by Mr. James and the Chief Instructors.

For the lately-created Instructorship in Mechanical Engineering the Secretary of State selected Mr. J. Webster, who entered on his duties in March.

Mr. W. H. Goddard, Instructor in Surveying and Superintendent of Military students, was granted combined furlough and privilege leave for one year from the 7th August. Mr. W. C. H. Littlewood was in consequence appointed to act in the Provincial Service establishment, and an acting step was given to M.R.Ry. S. Subrahmanya Aiyar, M. R. Ramaswami Sivan, B.A., and S. N. Venkataramaiya, B.A., L.T. The temporary vacancy caused by the last-mentioned promotion was filled by M.R.Ry. T. S. Vasudeva Aiyar, who was transferred from the Military Works Department. Mr. B. O. Reynolds was appointed to act as Superintendent of Military students *vice* Mr. Goddard.

M.R.Ry. V. S. Pranatartihara Aiyar, S. N. Venkataramaiya, B.A., L.T., and K. C. Subbaiya Chetti were confirmed in their appointments during the year.

In the office, A. Sivasankara Mudaliyar was appointed First Assistant clerk. The office has now been placed on an efficient footing.

The scheme for the increase in numbers and pay of the menial establishment, which was alluded to in last year's report, was approved, and it is expected to come into operation shortly.

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	10	12	13	13	48
Engineer Subordinate class	* 35	28	31	36	130
Sub-Overseer and Surveyor class	..	..	33	36	69
Draftsman class	..	..	24	34	58
Artisan class	..	..	..	47	47
Total	45	40	101	166	352

* Includes 7 who passed as independent candidates.

Excluding the students engaged in the practical courses, the total number actually in the college on the 31st December 1901 was 307. The corresponding totals for the last five years were—

Years.	Nos.
1901	307
1900	306
1899	277
1898	286
1897	260

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 per cent. were Brahmans as against 63 per cent. in 1900, 23 per cent. other caste Hindus, 6 per cent. Native Christians, 3 per cent. Europeans and Eurasians and 1 per cent. Muhammadans. As regards districts, Tanjore is represented by 30 per cent. of the total against 32 per cent. in 1900, Madras supplied 11 per cent., Trichinopoly 10 per cent., Tinnevelly 8 per cent., and Gódávari 5 per cent.

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

Class.	Examined.	Passed.	Admitted.
Engineer class	* 49	26	15
Engineer Subordinate class	† 202	116	§ 36
Sub-Overseer and Surveyor class	‡ 321	114	46
Draftsman class	136	49	45

* Of these, 40 had passed or appeared for the B.A. degree examination.
† Of these, 21 had passed the F.A. examination.
‡ Of these, 42 had passed the Matriculation examination.
§ Of these, 11 were F.A.'s and 5 Military students.

The number of applicants for the Engineer class was double that of the previous year, and it is a satisfactory feature that the majority had completed the B.A. course. The competition for the Engineer Subordinate class and for the Sub-Overseer and Surveyor class continues to be extremely keen, the numbers being 202 and 321 for 35 and 45 vacancies respectively. The number of First Arts candidates for the former class and of Matriculates for the latter is not yet however sufficiently large to warrant the raising of the standards of general education for admission. The applications for the Draftsman class numbered 137 against 78 in the previous year. The extended accommodation recently provided permitted of 45 students being admitted to each of the two junior classes of the college.

* * * * *

7. *Examinations of December* 1901.—These examinations were conducted by the same Board as those of February. The following is an abstract of the results :—

(*a*) *Engineer Class.*—The third-year division contained 12 students, 9 of whom passed the final examination. The average percentage of the total marks was 58. One independent candidate also appeared and satisfied the Board. The second and first-year divisions, each containing 13 students, appeared for the term examinations and obtained 60 and 69 per cent., respectively, of the total marks.

(*b*) *Engineer Subordinate Class.*—The senior division of 28 students appeared for the final examination, and 22 were successful. One of the unsuccessful students, however, will be declared to have passed as soon as he can satisfy the college in regard to practical surveying. The average percentage of marks gained by the class was 60. Three independent candidates also appeared and one passed. The intermediate and junior divisions of 31 and 36 students, respectively, appeared for the term examinations and secured 65 and 68 per cent. of the total marks.

(*c*) *Sub-Overseer and Surveyor Class.*—Of the 32 students in the senior division 29 were successful. The average percentage of marks was 63. Eleven independent candidates presented themselves and three passed. The junior division of the class containing 36 students secured an average of 69 per cent. of the marks at the term examination.

(*d*) *Draftsman Class.*—In the senior division 24 students presented themselves and 20 passed. The average marks were 62 per cent. of the total. Six independent candidates were also examined, of whom two qualified. In the junior division of the Draftsman class 34 students appeared for the term examination and obtained an average of 61 per cent. of the total marks.

(*e*) *Artisan Class.*—This class which contained 47 students was abolished at the end of the year. In its place a class is to be formed by the Consulting Architect for the practical training of maistries for the Public Works Department.

8. *Comparison of Results.*—In Appendix F, the percentages of marks secured under the various subject-heads by the senior divisions of classes are compared with the average results of the preceding four years.

The results of the examinations compare favourably with the averages of the preceding four years. The percentages are not quite so high as those of the examinations of February. . . . . The proportion of failures at the December examinations is however higher. This is due to the operation of a new rule that all students must obtain half marks on the Board's and College totals separately instead of in the combined total. The additional qualifying minima under each subject-head are as heretofore.

* * * * *

10. *Practical Courses.*—Ten Engineer and 35 Engineer subordinate students were under practical instruction from April 1901. The classes of two successive years will thus be under training simultaneously during the early months of 1902. Of the Engineer students four who desired to become Civil Engineers spent the period in Public Works divisions, and six who wished to become Mechanical Engineers worked in the Public Works Workshops at Madras, Bezwada and Dowlaishweram. The Engineer subordinate students spent the whole of the period in Public Works divisions. The reports received from Public Works officers were on the whole favourable, but in a few cases want of diligence was remarked on. One engineer student had his course extended by a month. In the Public Works Workshops there was at first too much note-taking by the students, and not enough manual work, but this defect was subsequently remedied. One of the Mechanical Engineer students was lent to the School of Arts during part of the year to assist in the erection of structural iron work. The practical instruction given in Public Works divisions seems to be generally suitable, but there is occasionally a tendency to utilize the services of students in the office in making plans and estimates.

The accommodation in the Body Guard Riding school was insufficient to permit of all the students going through the equitation course. There was one accident in the school by which a student fractured his arm.

In future the Engineer Subordinate students attached to the Consulting Architect's Division are to have a short course at the Public Works Workshops in fitting together the removable parts of portable and semi-portable engines.

11. *Military Students.*—The total number of military students during the latter half of the year was eleven, distributed as follows :—

Practical course	... ...	2
Engineer Subordinate class,	senior division	2
Do.	intermediate division	2
Do.	junior division	5

The two students on works have not yet completed their course for reasons already explained. Of the students in the senior division, one passed the final examination; the other was unsuccessful and reverted to his regiment. The second Public Works Department apprenticeship was accordingly filled by the retransfer from his regiment of a non-commissioned officer who passed the final examination of February 1901 and for whom there was at the time no vacancy. Of the students in the intermediate division, one rejoined his regiment, the 20th Hussars, on receipt of orders in November for active service in South Africa. The military student who is mentioned in last year's report as having been in hospital for a long period recovered and was permitted to join the junior division in July 1901.

12. *Surveying.*—The usual survey camps were formed at Pallavaram in April and July under the superintendence of Mr. W. H. Goddard, who was aided by five assistant Instructors. The numbers of students engaged were 176 and 205 respectively, and the cost Rs. 1,527 and Rs. 1,628. Each camp lasted three weeks.

13. *Inspections.*—The usual inspections were made of works in progress in Madras. In October two divisions of the Engineer class, two of the Engineer Subordinate class and one of the Sub-Overseer and Surveyor class, numbering 125 students, visited the Kistna and Gódávari districts, inspecting the head works at Bezwada and Dowlaishweram, the Kistna bridge, the Public Works Workshops and the principal works on the canal between Dowlaishweram and Cocanada. They were accompanied by the Professor of Engineering, the Instructor in Engineering and three assistant Instructors. These assistants failed to render the measure of aid which was expected from them. The tour extended over nine days. Thanks are due to Mr. A. G. Romilly, Executive Engineer, Kistna Northern Division, Mr. C. Mildred, Executive Engineer, Gódávari Eastern Division, and Mr. A. S. Laurie, Assistant Engineer in charge of Workshops, Dowlaishweram, for assistance obligingly rendered.

An Engineer Subordinate student, W. A. E. Gaudoin, met with an accident while bathing in the Gódávari which unhappily resulted fatally. All possible assistance was rendered by the staff and students and subsequently by the Sub-Magistrate of Alamur.

14. *Workshops and Laboratories.*—The Professor of Engineering reports as follows :—

"Arrangements were made for all the classes with the exception of the Draftman classes to attend in the Workshop for at least a few hours a week: owing to the limited accommodation it was only found possible to take the latter during the two survey camps when the other students were absent from the college: the numbers were—

Engineer students	39
Engineer Subordinate students	97
Sub-Overseer and Surveyor students	69
Draftsman students	59

"Two Government apprentices have also been under training, and one left during the course of the year to take up an appointment at Rajahmundry College.

"The progress on the whole was satisfactory, a few of the students showing very fair promise.

"An augmented staff of workmen has been employed on college furniture; this work was undertaken partly in order to afford the students an opportunity for gaining experience of work done under practical conditions.

"The only important addition to the tools during the past year is a modern turret lathe.

"Further extensions of the workshops and laboratories are needed as the accommodation and facilities at our disposal are inadequate for the efficient carrying on of the work at present, even when some of the classes are taken in divisions: further it is essential that arrangements be made for an increase in the number of students and for the development of the laboratory courses in other directions such as Hydraulic and Electrical Engineering. I hope to submit proposals at an early date."

15. *Physical Training and Recreation.*—Instruction in gymnastics and drill was given as usual, and an examination was held by me at the end of the year. As compared with last year's results there was an improvement in gymnastics. The drill was fair generally, but for the Engineer class indifferent.

Mr. James, who kindly undertook the duties of Honorary Secretary of the Recreation club, reports as follows :—

"The cricket, foot-ball, hockey and tennis clubs were all fairly well supported, but the attendance of the general body of students on the recreation ground might be somewhat improved.

"Teams were entered for the various trophies. Although not successful in gaining one, we were placed second for the Professors' trophy (cricket) and were in the finals for the Travancore and Havelock trophies (senior doubles and singles lawn tennis).

"The inter-class competitions were well contested; the Engineer classes succeeded in retaining only the foot-ball cup; the senior division of the Sub-Overseer and Surveyor class for the first time gained the cricket cup, and the intermediate division of the Engineer Subordinate class the hockey cup.

"During the year the surfaces of two of the tennis courts have been raised and remade. It is proposed to utilize the land recently granted for the extension of the recreation ground as a hockey ground; it will be necessary to level and drain this properly and it is hoped the work will be soon taken in hand.

"M.R.Ry. Subrahmanya Aiyar reports that the reading room was well attended and good use made of the periodicals and magazines supplied.

"I wish to acknowledge the assistance I have received from the assistant Instructors who have acted as secretaries for the various clubs."

16. *Library and Stores.*—During the year 161 books were added to the library, which now contains 3,906 volumes. The books issued to students numbered 3,395 and to the staff 408, against 3,800 and 510 respectively in the previous year, while 2,413 references were made to the consulting library.

The book values of stores were reduced for depreciation, the stores being revalued in cases where the original prices could not be ascertained.

17. *Attendance and Conduct.*—The percentage of numbers present to numbers on the rolls was 95·1 for the College department and 94·0 for the School department. As in the previous year there were numerous cases of absence supported by medical certificate. There were two casualties through illness in addition to the case of accident referred to in paragraph 13.

There were no instances of serious misconduct during the year.

18. *University examinations.*—Three students of the senior division of the Engineer class appeared for the B.E. degree examination in January 1901 and two were successful, one in the civil and one in the mechanical branch. Five ex-students also presented themselves and four passed.

Eighteen candidates offered themselves for the F.E. examination of whom 11 were second year and 7 third year students, and 12 succeeded in passing. Four ex-students also appeared of whom one was successful.

19. *Buildings.*—The Principal's office was divided into three rooms by partitions, so as to afford accommodation for the Professors of Civil and Mechanical Engineering, and to set free one of the lecture rooms for general purposes. A staircase was constructed from the library to the stationery store below. The north quadrangle was converted into a pot garden with central fountain. Annual repairs, which were not carried out in the previous year, were executed, and the buildings are now in good condition. The most pressing additions now called for are clerestory lights for the north end of the new drawing office on the ground floor and a lavatory for the European members of the staff.

Proposals for further workshop accommodation have not yet been submitted as Mr. James is desirous of gaining more experience of the College requirements before drawing up a scheme.

An estimate of Rs. 5,182 for furniture for the lately completed extension buildings was sanctioned in the Public Works Department and the work is being carried out in the College workshops.

20. *Government Technical Examinations.*—Seventeen candidates, of whom 14 were students of the College and 3 ex-students, presented themselves for these examinations. Two belonged to the Sub-overseer and Surveyor class, 6 to the Draftsman class, and the remainder to the Artisan class. Seven different subjects were taken up, and there were 31 papers in all. Seven students were successful, 3 in the intermediate grade and 4 in the elementary. Particulars are given in Appendix E.

21. *Employment of passed students of* 1900.—Of the 6 Engineers who completed their practical course early in 1901, the senior, V. Gopala Aiyar, B.A., B.E., was appointed Assistant Engineer, Public Works Department, Provincial Service, on

Rs. 250. Of the remainder, one became an Assistant Engineer, Local Fund Service, on Rs. 150, one a Sub-Assistant Engineer in Mysore on Rs. 130, two were appointed Supervisors in Native States on Rs. 150, and one to the Madras Railway on the same salary.

Out of the 17 Engineer subordinates who completed their practical course at the beginning of 1901, all but two secured employment during the year. Fifteen were appointed to the upper subordinate establishment of the Public Works Department, one to the Revenue Department and one to a Native State. The salary was in most cases Rs. 60.

Of the 25 Sub-overseers and Surveyors who passed out in December 1900, 18 are known to have obtained employment during the year as Sub-overseers, Surveyors, minor irrigation Overseers, and as assistant or channel Superintendents. Nine were appointed to the Public Works Department, 5 to the Revenue Department and 4 to Local Boards. The salaries ranged from Rs. 15 to Rs. 60, the average being Rs. 32.

Of the 30 Draftsmen who obtained certificates in December 1900, 19 were employed during the year, viz., 12 in the Public Works Department, 2 under Local Boards and 5 in the Railways. Salaries ranged from Rs. 15 to Rs. 50, the average being Rs. 32.

It was ruled in March that persons employed as minor irrigation Supervisors and Overseers must hold an Engineer Subordinate's certificate, and that persons appointed as minor irrigation Sub-Overseers must have passed the examination prescribed for the Sub-Overseer and Surveyor class or the Government Technical examinations in Agricultural Engineering and Surveying and Levelling.

22. *Revision of Rules.*—The alterations made in the Code of Rules during 1900 were embodied in a revised issue sanctioned by Government and published in June 1901. At the same time the age limit of military candidates for admission, which was raised to 28 in 1897, was again reduced to 25; and the allotment of marks to the Draftsman class course was modified so as to include college marks. The change in the age limit is likely to seriously affect the competition of non-commissioned officers and men for the Public Works Department, and a representation has been made in the matter. A new and more practical syllabus in mathematics was sanctioned for the Engineer Subordinate class, and the allotment of marks in this subject was revised. The general educational qualification for admission to the junior classes has been extended from the Lower Secondary or late Middle School examination so as to include such other examination as may be accepted by Government as equivalent thereto.

23. *Financial Details.*—It will be seen on reference to Appendix H that the receipts amounted to Rs. 28,366 and the charges to Rs. 90,046. The net cost to Government was therefore Rs. 61,680. Dividing this sum by the average number of students on the rolls, it appears that the net cost of educating each student was Rs. 196, the lowest rate arrived at for several years. Comparing the figures with those for 1900, there was an increase in receipts of Rs. 2,537 or 9·8 per cent. and a diminution in charges of Rs. 4,348 or 4·6 per cent. The net cost to Government decreased by 12·1 per cent. The rise in receipts is due to the large number of candidates paying entrance examination fees; while the reduction in the charges is the result of the change in incumbency of the Engineering chair. Full financial details for the official year are submitted with the annual returns. An abstract of receipts and charges for the last five calendar years is given in Appendix I.

The average tuition fee paid per student per annum was Rs. 76·3 in the College Department and Rs. 41·0 in the School Department.

24. *General.*—Although the college trains students to become either Civil or Mechanical Engineers and although the University holds separate examinations in the civil and mechanical branches, the training in the college has hitherto been identical for both classes, the only difference being in the nature of the practical course. Thus the present course is a combined one. The time seems to have arrived when studies should be specialised, a bifurcation being made at the end of the first or second year. Electrical Engineering might then be taken up as a branch of Mechanical Engineering. As soon as the chair of Civil Engineering is filled, the question will be considered and proposals framed.

With reference to the remarks made in paragraph 23 of last year's report, I am of opinion that no change should be made at present in the length of the course for the Engineer Subordinate class, nor in the duration of the session. An experiment will be made however of holding one survey camp for about five weeks in July in place of two camps of three weeks each, with the object of avoiding the early interruption of lectures in our short first term.

I take this opportunity of acknowledging the assistance rendered me by the members of the staff. I have received the cordial co-operation of the Professors of Engineering and Mathematics. Mr. James' previous experience of college lecture and laboratory work has made his labours of high value from the outset. The chief instructors, among whom Mr. B. O. Reynolds is specially mentioned, have given every aid, and the assistant instructors have at all times rendered good service except in the cases specified in paragraph 13.

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APPENDIX A.

Distribution of Students according to classes of Community on the 31st December 1901.

Classes.	Europeans and Eurasians.	Native Christians.	Muhammadans.	Hindus.				Aborigines.	Others.	Total.
				Brahmans.	Non-Brahman Caste Hindus.	Panchamas.	Other classes.			
Engineer	..	3	1	33	1	..	..	..	..	38
Engineer subordinate	9	4	..	73	9	..	..	..	..	95
Sub-Overseer and Surveyor	1	2	..	46	20	..	..	..	..	69
Draftsman	..	6	..	39	13	..	..	..	..	58
Artisan	..	3	1	15	28	..	..	..	..	47
Total ..	10	18	2	206	71	..	..	..	..	307

—

APPENDIX B.

Distribution of Students by Districts on the 31st December 1901.

Districts.	Engineer class.	Engineer Subordinate class.	Sub-Overseer and Surveyor class.	Draftsman class.	Artisan class.	Total.
Vizagapatam	1	1	..	..	..	2
Gódávari	2	3	4	5	1	15
Kistna	1	3	3	..	1	8
Nellore	..	..	..	..	1	1
Madras	2	5	3	6	18	34
Chingleput	..	3	4	2	2	11
North Arcot	1	3	..	2	3	9
South Arcot	1	1	2	2	3	9
Tanjore	14	30	21	19	10	94
Trichinopoly	4	8	11	7	1	31
Madura	..	6	3	2	1	12
Tinnevelly	3	12	5	4	..	24
Coimbatore	..	3	3	4	4	14
Salem	1	..	..	1	2	4
Malabar	..	1	3	2	..	6
South Canara	2	4	..	..	..	6
Pudukkóttai	1	2	1	..	..	4
Cochin	1	1	1	..	..	3
Mysore	1	..	1	1	..	3
Travancore	2	1	3	1	..	7
Rajapntana	1	..	..	..	..	1
Goa	..	..	1	..	..	1
Military students	..	8	..	..	..	8
Total ..	38	95	69	58	47	307

APPENDIX C.

Distribution of Students by Wealth and Occupation of Parents on the 31st December 1901.

Classes in the College.	Wealth.				Occupation.								
	Richer class.	Middle class.	Poorer class.	Total.	Officials.	Petty officials.	Traders.	Landholders.	Artisans	Coolies.	Mendicants.	Others.	Total.
Engineer class—													
Third year	..	10	2	12	3	..	..	9	..	..	..	..	12
Second year	..	13	..	13	6	..	1	6	..	..	..	..	13
First year	1	11	1	13	6	1	..	6	..	..	..	..	13
Engineer Subordinate class—													
Third year	..	25	3	28	12	3	2	11	..	..	..	..	28
Second year	..	25	6	31	12	..	2	17	..	..	..	..	31
First year	1	34	1	36	16	2	6	12	..	..	..	..	36
Sub-Overseer and Surveyor class—													
Second year	2	24	7	33	14	6	3	10	..	..	..	..	33
First year	..	31	5	36	14	1	2	19	..	..	..	..	36
Draftsman class—													
Second year	1	21	2	24	12	..	3	9	..	..	..	..	24
First year	..	26	8	34	19	3	3	9	..	..	..	..	34
Artisan class	2	31	14	47	8	1	1	5	31	1	..	..	47
Total ..	7	251	49	307	122	17	23	113	31	1	..	..	307

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APPENDIX D.

Average Numbers and Attendance in 1901.

	Average numbers on rolls.	Average daily attendance.
College Department—		
Engineer class, third year	12·0	11·3
Do. second year	13·0	12·2
Do. first year	14·0	13·5
Engineer Subordinate class, third year	28 5	26·4
Do. second year	32 5	31·2
Do. first year	36·0	34·8
	136·0	129·4
School Department—		
Sub-Overseer and Surveyor class, second year	33·0	31·0
Do. do. first year	37·8	35·2
Draftsman class, second year	24·0	22·4
Do. first year	34·0	32·3
Artisan and Maistry class	48·9	46·2
	177·7	167·1
Percentage of numbers present to numbers on the rolls—		
College Department		95·1
School do.		94·0

APPENDIX E.

Government Technical Examinations of 1901.

Subject.	Grade.	Number examined.						Number passed.
		Engineer class.	Engineer Subordinate class.	Sub-Overseer and Surveyor class.	Draftsman class.	Artisan class.	Total.	
Building Materials and construction.	E.	..	..	..	2	..	2	..
Building Drawing and Estimating	I.	..	..	..	1	..	1	1
	E.	..	..	..	..	4	4	..
Surveying and Levelling ..	E.	..	..	..	..	8	8	1
Mensuration	E.	..	..	..	1	5	6	1
Geometrical Drawing ..	I.	..	..	..	2	..	2	1
	E.	..	..	2	..	2	4	2
Machine Drawing	I.	..	..	..	1	..	1	1
Practical Plane and Solid Geometry.	I.	..	..	..	1	..	1	..
	E.	..	..	..	..	2	2	..
Total ..	I.	..	..	..	5	..	5	3
	E.	..	..	2	3	21	26	4

APPENDIX F.

	1901.	Average of preceding four years.
	PER CENT.	PER CENT.
Engineer class—Senior division—		
Mathematics	54	59
Science	50	50
Engineering	61	56
Drawing	58	55
Surveying	61	62
Language	65	56
Drills and Exercises	57	63
Total ...	58	56
Engineer Subordinate class—Senior division—		
Mathematics	55	56
Engineering	64	52
Drawing	60	53
Surveying	58	58
Language	68	53
Drills and Exercises	64	64
Total ...	60	54
Sub-Overseer and Surveyor class—Senior division—		
Surveying	65	60
Engineering	62	51
Drawing	62	53
Drills and Exercises	55	51
Total ...	63	56
Draftsman class—Senior division—		
Geometrical, Perspective, Freehand and Model Drawing.	54	52
Building Construction and Drawing	62	55
Machine Drawing	64	52
Estimating	66	57
Drills and Exercises	63	...
Total ...	62	55

APPENDIX G.

Classification of Vacancies notified during the year 1901.

	Government.			Local Boards and Municipalities.				Railways.				Native States.				Private employés.			
	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.	Rs. 100 to 200	Rs 50 to 100.	Under Rs. 50.	Total.
Engineer or Assistant.	1	..	..	6	2	..	..	..	..	..	..	..	..	..	..	1	..	..	10
Supervisor	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Overseer	..	..	..	..	..	5	10	..	..	..	..	..	1	4	1	..	..	..	21
Sub-Overseer	..	7	3	..	..	1	2	..	..	..	..	..	..	..	3	..	..	3	19
Draftsman	..	3	17	..	..	1	2	..	1	..	..	..	..	4	..	..	..	..	28
Surveyor	..	22	23	..	..	..	1	..	..	..	..	..	..	..	1	..	1	..	48
Anicut or Conservancy Superintendent.	..	4	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12
Total ..	2	36	51	6	3	7	15	..	1	..	..	..	1	8	5	1	1	3	140

APPENDIX H.

Financial Details for 1901.

	Rs.	A.	P.	Rs.	A.	P.
Receipts—						
Tuition Fees—						
College department	10,388	0	0			
School do.	7,308	8	0			
				17,696	8	0
Entrance and final examination fees				10,352	0	0
Miscellaneous receipts				317	12	5
Total				28,366	4	5
Charges—						
Principal				19,802	0	0
Professors, masters and teachers				39,493	11	3
Clerks, librarian and servants				4,617	5	8
Board of examiners				3,262	13	4
Library and prize allowances				1,143	4	1
Books and instruments				621	12	4
Other Europe stores				2,743	11	7
Other heads of contingent charges				11,362	7	10
Travelling allowances				883	15	0
Scholarships				4,320	13	5
Exchange compensation allowance				1,508	12	4
House-rent				285	0	0
Total ...				90,045	10	10

	Rs.	A.	P.
Net cost to Government	61,679	6	5
Average number of students on rolls, 314			
Net cost per student	196	6	10
Average tuition fees paid per student per annum—			
College department	76	3	0
School do.	41	0	0

APPENDIX I.

Financial Details.

	1901.	1900.	1899.	1898.	1897.
	Rs.	Rs.	Rs.	Rs.	Rs.
Receipts	28,366	25,829	21,821	17,553	16,366
Charges	90,046	94,394	89,538	75,480	74,179
Net cost to Government	61,680	68,565	67,718	57,928	57,813
Average number of students	314	307	283	285	239
Net cost per student	196	223	239	203	242

Proceedings, Dis. No. 2475 of 1902.

Staff.—The only changes worthy of note were the appointment of Mr. James in the place of Mr. Chatterton deputed to special duty, and the addition of Mr. Webster to the staff as instructor in Mechanical Engineering. The chair of Civil Engineering remained vacant during the year.

2. *Accommodation.*—It is reported that clerestory lights for the new drawing office and a lavatory for the European members on the staff are needed. Proposals for supplying them should be submitted.

3. *Workshops.*—Fair progress was made by the students in the workshops. The proposals promised by the Principal for extensions of the workshops and laboratories are awaited.

4. *Strength and attendance.*—The total number on the rolls at the close of the year was one more than in the previous year, though the draftsman and artisan classes numbered less. The latter class has ceased to exist from the current year. The steady rise in the strength of the Engineer class is satisfactory.

5. *Examinations.*—The results of the B. E. Degree examination were satisfactory, two having passed out of three that went up; there was also a material improvement in the outturn at the First examination in Engineering, the percentage of success having risen from 30 to 66.

Paragraphs 5 and 6 of the Principal's report which deal with the final examinations conducted in February 1901 and already reported on in the Principal's letter, No. 82 C, read in the Proceedings reviewing the last report, need not have found place in the present report. They have now been omitted.

Good results were obtained by the college classes at the Board examinations, though, except in the case of the Sub-Overseer and Surveyor class, the results compared unfavourably with those of the previous year. The independent candidates showed a similar retrogression and on the whole did rather poorly. Science and Mathematics in the Engineer class continued to be weak, and greater attention should be paid to them.

For the Government Technical examinations 31 subject candidates went up, of whom only seven passed. These results are not good.

6. *Military Students.*—Excluding the two students engaged in the practical course, nine military students were in the college against eight the previous year. Of the two that went up for the final examination only one passed. During the year, the age limit of military candidates for admission into the college was reduced from 28 to 25.

7. *Practical Course.*—Ten Engineer and thirty-five Engineer Subordinate students were under practical instruction. One of the Mechanical Engineer students was lent to the School of Arts for a part of the year to assist in the erection of a windmill, and the practical course of one Engineer student was extended by a month. Owing to insufficient accommodation in the riding school some of the students could not go through the equitation course.

8. *Physical Education.*—Physical education received due attention through the agency of the Recreation Club which worked with success during the year under the management of Mr. James assisted by the Instructors of the college. Drill in the Engineer class was indifferent. It is hoped that the next report will show an improvement.

9. *Discipline and Conduct.*—The conduct of the students was satisfactory.

10. *Employment of passed Students.*—Most of the students that passed out obtained employment; only one of the six Engineer students entered Government service.

11. *Finance.*—The financial condition of the college during the year showed an improvement, the receipts having risen by Rs. 2,537 while the charges decreased by Rs. 4,348. The net cost to Government was thus nearly Rs. 6,900 less than in the previous year and the net cost per student fell from Rs. 223 to Rs. 196, the lowest figure for the quinquennium.

12. *General.*—The Director considers that the statement in paragraph 8 of the report may be relegated to the appendix. This has now been done and the same procedure should be adopted by the Principal in future reports.

Besides paragraphs 5 and 6 mentioned above, a portion of paragraph 4 has been omitted as not dealing with the work of the year. Paragraph 9 has also been omitted as the Director considers that criticisms of this kind should not be introduced into the report. The Principal may address the Director separately on the subjects dealt with in the omitted paragraphs if he wishes to do so.

The administration of the college during the year was creditable to the Principal and the staff. It should have been reported what notice was taken of the dereliction of duty on the part of the assistant instructors noted in paragraph 13 of the report.

(A true Extract.)

(Signed) G. H. STUART,
Director of Public Instruction.

To the Principal, College of Engineering, with a spare copy for Officer in charge of Workshop.
,, Principals of other Government Colleges.
,, Inspectors of Schools.
,, Superintendent, School of Arts.

Copy to the President, Board of Examiners, College of Engineering.
,, ,, Chief Engineer, Public Works Department, for information.
,, ,, Editor, Indian Journal of Education.
,, ,, Editor, Educational Review.
,, ,, Government, with C.L.

Order—No. 322, Educational, dated 29th May 1902.

The Government have read the report on the working of the College of Engineering for 1901 with interest. It appears that there was a perceptible and encouraging reduction in the net cost on account of each student, and Lieutenant-Colonel Love and his staff may be congratulated on the good work done during the year.

[Here enter letter No. 323, Educational, dated 29th May 1902.]

(True Extract.)

A. T. PRINGLE,
Assistant Secretary to Government [in charge].

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

Ed. A. F. Eccleston.

EDUCATIONAL DEPARTMENT.

NOTES CONNECTED WITH G.O., Nos. 322, 323, EDUCATIONAL, DATED 29TH MAY 1902.

[SUBJECT.—*College of Engineering report.*]

From the Director of Public Instruction, Cur. No. 3657, *dated 7th May* 1902.

Assistant Secretary—

The report shows that the college continued to do good work during the year and the Principal and his staff deserve to be congratulated on it.

2. There was a perceptible reduction in the net cost on account of each student and this is very encouraging.

3. With reference to G.O., No. 696, Educational, dated 28th November 1901, the Public Works department may perhaps be asked when they will be able to transfer the services of an officer to fill the post of Professor of Civil Engineering. It is now nearly two years since the creation of this appointment was sanctioned—*vide* G.O., No. 289, Educational, dated 16th July 1900. X

4. Copy of the report should, as usual, go to the Secretary of State.

P. T. THARYAN.
10–5–02.

Orders may issue on the lines of this note unless the Public Works department has any objection to the enquiry at X.

A. T. PRINGLE.
12–5–02.

Public Works u.o.

PUBLIC WORKS DEPARTMENT.

There is no probability of this department being able to spare an officer for some time to come, even if the terms are made sufficiently attractive, seeing that the department is at present shorthanded and has difficulty in dealing with the extra work arising out of the recommendations of the Irrigation Commission and the largely increased grants lately given by India.

S. B. MURRAY.
26–5–02.

A. H. GARRETT.
26–5–02.

Educational u.o.

EDUCATIONAL DEPARTMENT.

H.M.—

Orders may issue in the sense of paragraphs 1 and 2 of the above.

A. T. PRINGLE.
27-5-02.

Yes.

J. T[HOMSON].
28-5-02.

The draft placed below may issue.

T. KANAKASUNDARAM PILLAI.
29-5-02.

A. T. PRINGLE.
29-5-02.

1,000—21-1-01.

Educational (1902) Department.

CURRENT No. 737.

From

[Name] The Honble Mr G. H. Stuart, M.A.,

[Designation] Director of Public Instruction,

[Station] Madras.

DESPATCHED
7 MAY 1902

7 MAY 1902

Current No. 365 7/02

Dated 7th May 1902

Enclosures one

Received _____ 190

Registered 8-5- 1902.

SUBJECT.

Lib.: Copy of Proceedings reviewing the report on the working of the College of Engg. Madras.

389-90-10-7-07
443-9-8-07
488-2-9-07
545-46-27-9-07
605-25-10-07 Sec
619-30-10-07
696-28-11-07 Sec

BACK PAPERS.

126-5-301 Sec
174-25-3-07
204-10-4-07 Sec
216-22-4-07 Sec
236-2-5-01-Sec
307-2-3-607 Sec
340-21-6-07
366-28-6-07 Sec
345-22-6-07 Sec

FURTHER PAPERS. 573-8-11-00

To

The Secretary to Government,

Educational Department.

Sir,

I have the honour to submit for the information of Government a copy of my Proceedings Dis No 2475, dated 29th April 1902 reviewing the report on the working of the College of Engineering, Madras, for the year 1901.

I have the honour to be,

Sir,

Your most obedient servant,

G. F. Stuart

Director of Public Instruction.

[E. / 4]

1,000—25-10-01.

EDUCATIONAL DEPARTMENT.

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

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

READ ALSO:—

C. No. 737, From the D. P. I. C. No. 3657, dated 7th May 1902

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

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

ORDER No 322, dated 29-5-1902

P. S.

The Govt. have read the report on the working of the College of Engineering for the year 1901 with interest. It appears that there was a perceptible and encouraging reduction in the net cost on account of each student, and Lieut. Col. Lane and his staff may be congratulated on the good work done during the year.

29.5.2

Letter to 323 / 29.5.02 The Under Secy. of State for India

Desk 1A 29-5-02

To The D. P. I. w/cd

" P. W. D. w/cd 16/6

Editors' Table

Sent

4

Sir,

With reference to 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., of this date, reviewing the report on the working of the College of Eng. during the year 1901.

M.O.

29.5.02

TK
29.5.02

copy sent to Press.

rned for signature.

patched in print.

AGAIN G.O., No. DATED
190 .

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1716