

GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

READ—the following paper :—

Proceedings of the Director of Public Instruction, dated 14th June 1882,
No. 3336.

Civil Engineering College.

Read—the following letter from Lieutenant H. D. LOVE, R.E., Principal, Civil Engineering College, to the Director of Public Instruction, dated 29th May 1882, No. 150-C.

I have the honor to submit the following report on the working of the College during the past year and on the results of the examinations for certificates which have been held in that period.

2. *Changes in Establishment.*—Owing to the absence, on other duty and on leave, of Mr. Bradshaw, Mr. Kenny continued to act as First Assistant Master throughout the year.

On 18th April 1881, Sub-Conductor McAleese, Second Assistant, proceeded on furlough. Sub-Conductor Cames was nominated to act as Second Assistant and Librarian, and Sergeant Hamilton and Mr. Hennessy each received an acting step.

The staff being below its proper complement, Mr. E. A. Barren was appointed Acting Master for the Surveying and Drawing Classes on 19th August 1881, but he resigned on 8th of November following on re-appointment to the Public Works Department.

On 9th November, Sub-Conductor Hyde returned from furlough, was appointed to act as Third Assistant, and resumed his duties as Instructor in Photography. Sergeant Hamilton then acted as Fourth Assistant, and Mr. Hennessy took charge of the Surveying and Drawing Classes. The staff continued to the end of the Session to stand at one below its full strength.

Mr. Hyde made use of his spare time, while on furlough, to go through a South Kensington Art course, and his exertions were rewarded by valuable certificates and prizes from the Science and Art Department.

3. *First Department—Engineer Classes.*—In December 1881 one student, Mr. Hormusji Nowroji, was examined for a certificate of qualification as Assistant Engineer. He passed a brilliant examination, attaining a percentage of the total marks which the records of the College show to have been exceeded only on one occasion. He, subsequently, took the degree of Bachelor of Civil Engineering of the Madras University in the Second Class.

4. There is this year no First Division of the Senior Department, but the Second Division consists of nine students, the largest number which it has contained for many years. This sudden increase of popularity of the Engineer Class is due to the recent appointment to the Public Works Department of several passed men of 1878, 1879, and 1880.

5. *Second Department—Subordinate Classes.*—In the First Class of this Department seven students have just undergone examination for certificates of qualification as Overseer, Public Works Department. These men joined the College two years

ago, shortly after extensive reductions had been made in the Public Works Department, and at a time when prospects of employment in the Government service appeared indifferent. The number of the candidates who then presented themselves was consequently unusually small, and there was but little scope for the exercise of selection in forming a class. Notwithstanding this, the results of the recent examination have not been unsatisfactory. The average percentage of marks gained remains the same as in 1881, and, though there has been no instance of very marked success, yet there have been no failures.

6. I take this opportunity to express my grateful thanks to the following gentlemen who have been so good as to serve as Examiners:—

Arithmetic	Major A. F. Hamilton, R.E.
Algebra	J. A. Jones, Esq., M. Inst. C.E.
Euclid	A. S. Russell, Esq.
Mensuration	Colonel H. L. Prendergast, R.E.
Trigonometry and Statics	Lieut. W. L. C. Baddeley, R.E.
Building Materials and Construction	Colonel W. H. Burton, R.E.
Earthwork and Roadmaking	J. A. Jones, Esq., M. Inst. C.E.
Bridges and Irrigation Works	Colonel C. J. Smith, R.E.
Hydraulics	Major J. Pennycuik, R.E.
Strength of Materials	F. B. Hanna, Esq., M.A., M.E., M. Inst. C.E.
Chain, Compass, and Sextant Surveying	Lieut. R. E. Hamilton, R.E.
Levelling	Lieut. F. J. Romilly, R.E.
Theodolite and Traverse	C. Vincent, Esq., A.I.C.E.
Drawing from Specification	E. W. Stoney, Esq., M. Inst. C.E.
Estimating	Major R. R. E. Drake-Brockman, R.E.
Tamil and Telugu	M.R.Ry. V. Krishnamachariyar Avargal.

7. None of the Examiners report that the class, as a whole, has done specially well in any subject, though individuals occasionally earn commendation. Colonel C. J. Smith speaks highly of Bombardier Donaghue's paper in Bridges and Irrigation Works, and also commends Gunner Richardson and Sergeant Rule. Gunner Richardson is, in addition, praised by Major Pennycuik for his paper in Hydraulics and by Mr. Vincent for Theodolite and Traverse Surveying. A few of the Examiners consider that the answers to their papers do not reach the usual average. The general results, however, are best seen by comparing the average percentages of marks with those of previous years. Taking 1881, a suitable year for comparison, it will be found that at the recent examination there has been—

a rise of 1 per cent. in Engineering,
a fall of 6 per cent. in Mathematics,
a rise of 8 per cent. in Surveying and Levelling,
an unchanged percentage in Drawing and Estimating,
a rise of 5 per cent. in Language, and
an unchanged percentage on the total.

8. All seven candidates pass and receive certificates as Overseer, Public Works Department. Bombardier A. Donaghue stands first, gaining the Royal Engineer Officers' prize for general proficiency in his studies and the prize for Drawing and Estimating. Gunner J. Richardson is only one mark below. He obtains the prize for Mathematics and that for Surveying. Bombardier Healey, who takes the third place, is *facile princeps* in Mathematics, but, having been longer at the College than his companions, is ineligible for the prize in that subject. Corporal Rule stands fourth and secures the prize for Vernacular Language.

9. The Second Class of this Department consists of eleven students and has just undergone a satisfactory examination, the whole of the pupils being promoted to the First Class.

Gunner Coghlan stands first with 1,059 marks out of 1,425 and secures the prize for Drawing and Estimating; C. H. Edwards and M. P. Narasimha Aiyangar stand second and third respectively and are awarded civil scholarships of Rs. 15 each per mensem. Gunner Alford obtains the prize in Language; H. Subba Rau, F.A., is awarded a scholarship of Rs. 15 per mensem, and gains the prize for Mathematics; and

Sergeant Scudder, R.A., takes the prizes for Engineering and for Surveying and Levelling. The rest of the class have done fairly.

10. *Survey Class*.—The First Division, comprising six pupils, has been examined for certificates. All have passed, four, viz.,—

K. A. Krishnamachari,
P. Anandanathan,
V. Devasikhamani Pillai,
A. Ramaswami Mudaliyar,

gaining second-class certificates, and the rest third class. No prize is given, as the four senior men have all spent more than two years at the College.

11. The Second Division, consisting of three students, has done fairly. To R. Sivasubrahmanya Aiyar, who stands first, is awarded a scholarship of Rs. 8 per mensem and a prize for Surveying.

12. *Drawing Class*.—The First Division of ten students has done remarkably well. G. Narayanaswami Nayudu is *facile princeps* with 428 marks out of 500. He gains the rather unusual distinction of a first-class certificate as a Draughtsman and Estimator; H. Egna Lal and S. Muniswami Nayudu obtain second-class certificates; the next five men secure third-class certificates; and two, who have failed will be permitted to remain another year in the class. The prize is awarded to G. Ellis, his seniors having spent more than two Sessions at the College. A want of success in Estimating, a subject which seems to present peculiar difficulties to the class, has frequently been commented on in previous reports. A marked improvement is this year visible. This improvement and the general results of the examination reflect credit on Messrs. Hennessy and Hamilton, who have at different periods of the course had charge of the class.

13. In the Second Division the five pupils who have been examined are promoted to the First Division. Civil Scholarships of Rs. 8 per mensem are awarded to—

Sundararamanjulu Nayudu,
K. Sadagopa Mudaliyar, and
M. Embarayya Nayudu.

14. *Military Students*.—The Session commenced with eight students—five in the First Class of the Second Department and three in the Second. These numbers have been maintained to the present time.

Two men in the Vernacular Class at Bangalore are about to be examined in Language for entry to the College in August next.

Four Non-Commissioned Officers and men passed the Entrance Examination in April last and will join the Vernacular Class early in June.

15. *Employment of Passed Students—First Department*.—The students of the Engineer Classes look almost solely to the Public Works Department for employment. They pass out of the College with ample theoretical attainments, but their practical knowledge is confined to Surveying and Drawing and to so much of Building as can be acquired by inspecting and reporting upon works for the manufacture of materials and works of construction. It need not be said that a young Assistant Engineer can be of small practical utility until he has served on works and acquired a knowledge of the management of labor and of those numerous details which it is not within the compass or the capacity of an ordinary College course to furnish. The chief employers (other than the Public Works Department) of engineering knowledge have hitherto made little use of the passed men of the College Senior Department, probably because they will not incur the expense of affording practical training so long as individuals possessed of it remain available from the recent reductions in the Public Works Department.

Looking thus to the last-mentioned branch of the Government service, it was discouraging for the men who passed out of the Engineer Classes in 1878, 1879, and 1880 to observe that between August 1878 and October 1881 only one appointment was made, and it is not surprising to find that the numbers annually joining the

College fell from six in 1878 to two in 1880 and none in 1881. In October 1881, however, the Chief Engineer appointed five men who had secured certificates as Assistant Engineer and who had subsequently taken the degree of B.C.E. as Apprentice Supervisors in the Department, and, as an immediate result, nine Graduates and Under-graduates applied for admission, forming the largest Engineer Class which the College has seen for many years. The success of the student who passed out in December last has already been noticed, and I am happy to say that he has secured temporary employment on a substantial salary under the Madras Municipal Commission.

16. *Overseers.*—The Military students, who have hitherto entered the College, have been guaranteed employment by the Public Works Department on their obtaining certificates of qualification. During the past year three Non-Commissioned Officers and men were appointed Apprentice Overseers, and one Sergeant Hearne, 14th Hussars, who had temporarily reverted to his regiment for active service, was re-appointed. By a general order issued in April 1882, the rules for the admission of Military students were modified. The maximum number annually admitted will continue to stand at five, but the guaranteed appointments of successful men will be reduced to three.

17. As regards the Civilians, ten men, chiefly of the batches of 1880 and 1881, were, in October last, nominated Apprentice Overseers in the Public Works Department, those who had secured College certificates as Supervisor being posted to the second grade, and those with Overseers' certificates to the third. In G.O., No. 2733 W., dated 4th November 1881, sanction was accorded to the appointment of ten Apprentice Overseers annually as a maximum. This order and the appointments made in 1881 are expected to give considerable impetus to the Second Department of the College.

18. The remarks already made regarding a want of further practical training for the students of the Engineer Class apply also to those passed men of the Second Department who are not nominated Apprentice Overseers in the Public Works Department, though the want does not interfere to the same extent with their obtaining employment outside the Government service. During the year, eight men of the 1880 and 1881 batches were appointed Overseers in the Engineering Establishments of various Local Fund Boards on the recommendation of the College, and others have probably secured similar employment through their own exertions. These Boards open up a large sphere of usefulness to men who have had a technical training, but it is gathered from a return of the Engineering Establishments of the Boards that many individuals are entertained as Overseers who would not be eligible for similar positions in the Public Works Department. As these men have to acquire a certain amount of technical knowledge before they can become profitable members of the establishment, it is thought that it would be advantageous to the Boards invariably to procure efficiently taught men from the College, instead of training them themselves.

19. From what has been said it will be seen that the year has been productive of that kind of results in which passed students are most interested, and these results may be expected to react on the College by attracting a more numerous class of Overseers next Session.

20. In Proceedings of Government, No. 34, Educational Department, dated 27th January 1882, it was ruled that the holders of Overseers' certificates are eligible for all appointments of which the Middle School Examination is at present the test. This ruling will be embodied in the Public Works Code.

21. *Surveyors and Draughtsmen.*—Such of these men as enter the Public Works Department are appointed by Executive Engineers, and no notice of their employment is communicated to the College. It is therefore difficult to say to what extent their services have been utilized. A few men, however, have been assisted by the College to appointments in other departments of Government and in various Local Fund Boards.

22. *Model Room.*—Several new models have lately been added to the collection. Chief among them are—

A Coffier-dam (admirably constructed by Mr. H. C. West at the Madras Railway Workshops).
Three types of Staircase.
Wedges for lowering bridge centrings.
Terrace roof.
Lewis.
Sectional models of types of Mechanism and Professor Willis' apparatus to illustrate the mechanical powers.

23. *Library.*—Owing to the comparatively small number of students in the College, the whole of the library grant was not utilized, but 71 works were added to the collection, making a total of 1,524 volumes. The extent to which the library has been made use of is far greater than in previous years, 647 books having been issued against 290 in 1881.

24. *Recreation* for the resident Military students has been provided by the construction of a lawn tennis court on the sea-face of the building, the first cost having been defrayed by Government on the understanding that maintenance charges would be met by the students.

25. Allusion was made in last year's report to the labors of the Committee which was appointed to consider the working of the College and to suggest modifications if necessary. The chief change proposed was the recognition of the principle that all students should receive such education, both theoretical and practical, as should render them fit for useful work immediately on the completion of their course of instruction. It is understood that the Committee's report has been under the consideration of Government, but no orders have yet been passed on it.

26. The general conduct of the different classes has been throughout the year highly satisfactory.

27. In conclusion it has only to be added that all the members of the instructional staff have displayed an energy in the performance of their duties which will, I am sure, enhance their enjoyment of the leisure of the coming vacation.

Proceedings—dated 14th June 1882, No. 3336.

Establishment.—The changes in the establishment were numerous, but consisted mainly of transfers from one appointment to another owing to the absence of certain of the masters on leave. It is satisfactory to note that Mr. Hyde, whose return from England is reported, had gone through a South Kensington course and that he holds valuable certificates and prizes from the Science and Art Department.

2. *First Department.*—One student was examined for a certificate of qualification as Assistant Engineer. He is stated to have passed a brilliant examination and to have subsequently taken the degree of B.C.E. in the Second Class in the Madras University. This department contains no students in its First Division, but there are nine, or the largest number for many years, in its second—a satisfactory feature due to the appointment to the Public Works Department of several of the passed men of 1878, 1879, and 1880.

3. *Second Department.*—In the First Class seven students underwent examination for, and obtained, certificates as Overseers. The average percentage of marks obtained was the same as in 1881, and, although there was no marked success, there were no failures. This result is noticeable because the period of study was one of great depression owing to reductions having been made in the Public Works Department. As usual the examination was conducted as a labor of love by several gentlemen, to whom the thanks of the department are due. From their reports it cannot be said that the class, as a whole, has done particularly well in any subject, though individual members of it have earned commendation from certain of the Examiners. In some

cases it has been considered that the answers did not reach the usual average. Taking 1881 as a suitable year for comparison, the results may, the Principal observes, be thus recorded:—

a rise of 1 per cent. in Engineering,
a fall of 6 per cent. in Mathematics,
a rise of 8 per cent. in Surveying and Levelling,
an unchanged percentage in Drawing and Estimating,
a rise of 5 per cent. in Language,
an unchanged percentage on the total.

The Second Class underwent a satisfactory examination, and the whole of the eleven students passed into the First Class.

4. *Survey Class.*—The First Division was examined, and all the six students passed, four obtaining second-class and the rest third-class certificates.

The Second Division, consisting of three students, did fairly.

5. *Drawing Class.*—The First Division of ten students, allowing for two failures, is said to have done remarkably well. One student gained the rather unusual distinction of a first-class certificate as Draughtsman and Estimator. Two obtained second-class and five third-class certificates. The students who failed will remain another year. It is gratifying to note that there is marked improvement this year in the subject of Estimating, reflecting credit on the teachers.

The five pupils in the Second Division who were examined earned their promotion to the First Division.

6. *Military Students.*—There were five students in the First Class of the Second Department and three in the Second during the entire Session. Two men in the Vernacular Class at Bangalore were about to be examined in Language with the object of joining in August. Four Non-Commissioned Officers and men passed the Entrance Examination in April and were about to join the Vernacular Class in June.

7. *Employment of Passed Students—First Department.*—The encouragement lately given to passed students by their employment in 1881 as Apprentice Supervisors has naturally had a very good effect inasmuch as it has drawn capable students into the College in an unusually large number, and it is gratifying to find that the student who passed out in December has obtained an appointment under the Madras Municipality. The Principal's remarks on the defects of Assistant Engineers in practical training and experience are noteworthy.

8. *Overseers.*—Three Non-Commissioned Officers and men were appointed Apprentice Overseers, and a Sergeant, who had temporarily reverted to his regiment for active service, was re-appointed. The rules for the admission of Military students have been modified, leaving the maximum of admissions untouched, but reducing the guaranteed appointments to three. Ten of the civilians, chiefly of the batches of 1880 and 1881, were nominated as Apprentice Overseers—those with Supervisors' certificates to the Second Grade and those with Overseers' certificates to the Third. It is expected that the appointment of ten men annually, which has been sanctioned, with the appointments made in 1881, will give the Second Department considerable impetus. During the year eight students of the Second Department of the batches of 1880 and 1881 obtained employment under Local Fund Boards on the recommendation of the College. It is gathered, however, that the same Boards employ individuals as Overseers who would not be eligible for similar positions in the Public Works Department, and it would probably be advantageous to draw men exclusively from the College. Under G.O., No. 34, Educational Department, dated 27th January 1882, persons holding Overseers' certificates are eligible for employment equally with those who have passed the Middle School Examination. This concession is favorable to the popularity of the institution.

9. *Surveyors and Draughtsmen.*—A few men have obtained employment through the College, but, as observed by the Principal, it seems desirable that when appointments are made to the Public Works Department they should be communicated for information.

10. The model room and library have been added to, and the latter has been made use of to a far greater extent. Means of recreation for the Military students have been provided. The report of the Committee on the working of the College is still before Government. The general conduct of the classes has been highly satisfactory, and the teaching staff is reported to have worked with energy. Altogether the report is a satisfactory and hopeful one. The institution is rapidly recovering from the depression of the past two or three years.

(A true Copy and Extract.)

(Signed) H. B. GRIGG,
Director of Public Instruction.

To the Principal of the Civil Engineering College.

No. 306-N.

Endorsement on the above.

Submitted for the information of Government with reference to their Proceedings, dated 21st June 1882, No. 101, Educational.

(Signed) H. B. GRIGG,
Director of Public Instruction.
OOTACAMUND,
27th July 1882.

ORDER—dated 9th August 1882, No. 204, Educational.

Ordered that the report be forwarded to the India Office.

(True Extract.)

C. G. MASTER,
Chief Secretary.

To the Director of Public Instruction.
„ Public Works Department.

Exd. T. O'Connor.

Govt. of (1882) Madras
EDUCATIONAL.

Issued

Recd.

Encl.

G.O., 9th August 1882, No. 204.

AUGUST.

Civil Engineering College.

Ordering that the report on the working of the
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9TH AUGUST 1882, No. 204, EDUCATIONAL.

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17. As regards the Civilians, ten men, chiefly of the batches of 1880 and 1881, were, in October last, nominated Apprentice Overseers in the Public Works Department, those who had secured College certificates as Supervisor being posted to the second grade, and those with Overseers' certificates to the third. In G.O., No. 2733 W., dated 4th November 1881, sanction was accorded to the appointment of ten Apprentice Overseers annually as a maximum. This order and the appointments made in 1881 are expected to give considerable impetus to the Second Department of the College.

18. The remarks already made regarding a want of further practical training for the students of the Engineer Class apply also to those passed men of the Second Department who are not nominated Apprentice Overseers in the Public Works Department, though the want does not interfere to the same extent with their obtaining employment outside the Government service. During the year, eight men of the 1880 and 1881 batches were appointed Overseers in the Engineering Establishments of various Local Fund Boards on the recommendation of the College, and others have probably secured similar employment through their own exertions. These Boards open up a large sphere of usefulness to men who have had a technical training, but it is gathered from a return of the Engineering Establishments of the Boards that many individuals are entertained as Overseers who would not be eligible for similar positions in the Public Works Department. As these men have to acquire a certain amount of technical knowledge before they can become profitable members of the establishment, it is thought that it would be advantageous to the Boards invariably to procure efficiently taught men from the College, instead of training them themselves.

19. From what has been said it will be seen that the year has been productive of that kind of results in which passed students are most interested, and these results may be expected to react on the College by attracting a more numerous class of Overseers next Session.

20. In Proceedings of Government, No. 34, Educational Department, dated 27th January 1882, it was ruled that the holders of Overseers' certificates are eligible for all appointments of which the Middle School Examination is at present the test. This ruling will be embodied in the Public Works Code.

21. *Surveyors and Draughtsmen.*—Such of these men as enter the Public Works Department are appointed by Executive Engineers, and no notice of their employment is communicated to the College. It is therefore difficult to say to what extent their services have been utilized. A few men, however, have been assisted by the College to appointments in other departments of Government and in various Local Fund Boards.

22. *Model Room.*—Several new models have lately been added to the collection. Chief among them are—

- A Coffor-dam (admirably constructed by Mr. H. C. West at the Madras Railway Workshops).
- Three types of Staircase.
- Wedges for lowering bridge centrings.
- Terrace roof.
- Lewis.
- Sectional models of types of Mechanism and Professor Willis' apparatus to illustrate the mechanical powers.

23. *Library.*—Owing to the comparatively small number of students in the College, the whole of the library grant was not utilized, but 71 works were added to the collection, making a total of 1,524 volumes. The extent to which the library has been made use of is far greater than in previous years, 647 books having been issued against 290 in 1881.

24. *Recreation* for the resident Military students has been provided by the construction of a lawn tennis court on the sea-face of the building, the first cost having been defrayed by Government on the understanding that maintenance charges would be met by the students.

25. Allusion was made in last year's report to the labors of the Committee which was appointed to consider the working of the College and to suggest modifications if necessary. The chief change proposed was the recognition of the principle that *all* students should receive such education, both theoretical and practical, as should render them fit for useful work immediately on the completion of their course of instruction. It is understood that the Committee's report has been under the consideration of Government, but no orders have yet been passed on it.

26. The general conduct of the different classes has been throughout the year highly satisfactory.

27. In conclusion it has only to be added that all the members of the instructional staff have displayed an energy in the performance of their duties which will, I am sure, enhance their enjoyment of the leisure of the coming vacation.

Proceedings—dated 14th June 1882, No. 3336.

Establishment.—The changes in the establishment were numerous, but consisted mainly of transfers from one appointment to another owing to the absence of certain of the masters on leave. It is satisfactory to note that Mr. Hyde, whose return from England is reported, had gone through a South Kensington course and that he holds valuable certificates and prizes from the Science and Art Department.

2. *First Department.*—One student was examined for a certificate of qualification as Assistant Engineer. He is stated to have passed a brilliant examination and to have subsequently taken the degree of B.C.E. in the Second Class in the Madras University. This department contains no students in its First Division, but there are nine, or the largest number for many years, in its second—a satisfactory feature due to the appointment to the Public Works Department of several of the passed men of 1878, 1879, and 1880.

3. *Second Department.*—In the First Class seven students underwent examination for, and obtained, certificates as Overseers. The average percentage of marks obtained was the same as in 1881, and, although there was no marked success, there were no failures. This result is noticeable because the period of study was one of great depression owing to reductions having been made in the Public Works Department. As usual the examination was conducted as a labor of love by several gentlemen, to whom the thanks of the department are due. From their reports it cannot be said that the class, as a whole, has done particularly well in any subject, though individual members of it have earned commendation from certain of the Examiners. In some

cases it has been considered that the answers did not reach the usual average. Taking 1881 as a suitable year for comparison, the results may, the Principal observes, be thus recorded:—

a rise of 1 per cent. in Engineering,
a fall of 6 per cent. in Mathematics,
a rise of 8 per cent. in Surveying and Levelling,
an unchanged percentage in Drawing and Estimating,
a rise of 5 per cent. in Language,
an unchanged percentage on the total.

The Second Class underwent a satisfactory examination, and the whole of the eleven students passed into the First Class.

4. *Survey Class.*—The First Division was examined, and all the six students passed, four obtaining second-class and the rest third-class certificates.

The Second Division, consisting of three students, did fairly.

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The five pupils in the Second Division who were examined earned their promotion to the First Division.

6. *Military Students.*—There were five students in the First Class of the Second Department and three in the Second during the entire Session. Two men in the Vernacular Class at Bangalore were about to be examined in Language with the object of joining in August. Four Non-Commissioned Officers and men passed the Entrance Examination in April and were about to join the Vernacular Class in June.

7. *Employment of Passed Students—First Department.*—The encouragement lately given to passed students by their employment in 1881 as Apprentice Supervisors has naturally had a very good effect inasmuch as it has drawn capable students into the College in an unusually large number, and it is gratifying to find that the student who passed out in December has obtained an appointment under the Madras Municipality. The Principal's remarks on the defects of Assistant Engineers in practical training and experience are noteworthy.

8. *Overseers.*—Three Non-Commissioned Officers and men were appointed Apprentice Overseers, and a Sergeant, who had temporarily reverted to his regiment for active service, was re-appointed. The rules for the admission of Military students have been modified, leaving the maximum of admissions untouched, but reducing the guaranteed appointments to three. Ten of the civilians, chiefly of the batches of 1880 and 1881, were nominated as Apprentice Overseers—those with Supervisors' certificates to the Second Grade and those with Overseers' certificates to the Third. It is expected that the appointment of ten men annually, which has been sanctioned, with the appointments made in 1881, will give the Second Department considerable impetus. During the year eight students of the Second Department of the batches of 1880 and 1881 obtained employment under Local Fund Boards on the recommendation of the College. It is gathered, however, that the same Boards employ individuals as Overseers who would not be eligible for similar positions in the Public Works Department, and it would probably be advantageous to draw men exclusively from the College. Under G.O., No. 34, Educational Department, dated 27th January 1882, persons holding Overseers' certificates are eligible for employment equally with those who have passed the Middle School Examination. This concession is favorable to the popularity of the institution.

9. *Surveyors and Draughtsmen.*—A few men have obtained employment through the College, but, as observed by the Principal, it seems desirable that when appointments are made to the Public Works Department they should be communicated for information.

10. The model room and library have been added to, and the latter has been made use of to a far greater extent. Means of recreation for the Military students have been provided. The report of the Committee on the working of the College is still before Government. The general conduct of the classes has been highly satisfactory, and the teaching staff is reported to have worked with energy. Altogether the report is a satisfactory and hopeful one. The institution is rapidly recovering from the depression of the past two or three years.

(A true Copy and Extract.)

(Signed) H. B. GRIGG,
Director of Public Instruction.

To the Principal of the Civil Engineering College.

No. 306-N.

Endorsement on the above.

Submitted for the information of Government with reference to their Proceedings, dated 21st June 1882, No. 101, Educational.

OOTACAMUND,
27th July 1882.

(Signed) H. B. GRIGG,
Director of Public Instruction.

ORDER—dated 9th August 1882, No. 204, Educational.

Ordered that the report be forwarded to the India Office.

(True Extract.)

C. G. MASTER,
Chief Secretary.

To the Director of Public Instruction,
„ Public Works Department.

Exd. T. O'Connor.

Govt. of (1882) Madras

EDUCATIONAL.

Issued

Recd.

Encl.

G.O., 9th August 1882, No. 204.

AUGUST.

S. No. 2215 W. of 22 Aug: '82

Recorded

(Initd) RT.

Civil Engineering College.

Ordering that the report on the working of the
— for 1881-82 be forwarded to the India Office.

9TH AUGUST 1882, No. 204, EDUCATIONAL.

GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

READ—the following paper :—

Proceedings of the Director of Public Instruction, dated 14th June 1882,
No. 3336.

Civil Engineering College.

Read—the following letter from Lieutenant H. D. LOVE, R.E., Principal, Civil
Engineering College, to the Director of Public Instruction, dated 29th May 1882,
No. 150-C.

I have the honor to submit the following report on the working of the College
during the past year and on the results of the examinations for certificates which
have been held in that period.

2. *Changes in Establishment.*—Owing to the absence, on other duty and on
leave, of Mr. Bradshaw, Mr. Kenny continued to act as First Assistant Master
throughout the year.

On 18th April 1881, Sub-Conductor McAleese, Second Assistant, proceeded
on furlough. Sub-Conductor Cames was nominated to act as Second Assistant and
Librarian, and Sergeant Hamilton and Mr. Hennessy each received an acting step.

The staff being below its proper complement, Mr. E. A. Barren was appointed
Acting Master for the Surveying and Drawing Classes on 19th August 1881, but he
resigned on 8th of November following on re-appointment to the Public Works
Department.

On 9th November, Sub-Conductor Hyde returned from furlough, was appointed
to act as Third Assistant, and resumed his duties as Instructor in Photography.
Sergeant Hamilton then acted as Fourth Assistant, and Mr. Hennessy took charge of
the Surveying and Drawing Classes. The staff continued to the end of the Session to
stand at one below its full strength.

Mr. Hyde made use of his spare time, while on furlough, to go through a South
Kensington Art course, and his exertions were rewarded by valuable certificates and
prizes from the Science and Art Department.

3. *First Department—Engineer Classes.*—In December 1881 one student, Mr.
Hormusji Nowroji, was examined for a certificate of qualification as Assistant
Engineer. He passed a brilliant examination, attaining a percentage of the total
marks which the records of the College show to have been exceeded only on one
occasion. He, subsequently, took the degree of Bachelor of Civil Engineering of the
Madras University in the Second Class.

4. There is this year no First Division of the Senior Department, but the
Second Division consists of nine students, the largest number which it has contained
for many years. This sudden increase of popularity of the Engineer Class is due to
the recent appointment to the Public Works Department of several passed men of
1878, 1879, and 1880.

5. *Second Department—Subordinate Classes.*—In the First Class of this Depart-
ment seven students have just undergone examination for certificates of qualification
as Overseer, Public Works Department. These men joined the College two years

ago, shortly after extensive reductions had been made in the Public Works Department, and at a time when prospects of employment in the Government service appeared indifferent. The number of the candidates who then presented themselves was consequently unusually small, and there was but little scope for the exercise of selection in forming a class. Notwithstanding this, the results of the recent examination have not been unsatisfactory. The average percentage of marks gained remains the same as in 1881, and, though there has been no instance of very marked success, yet there have been no failures.

6. I take this opportunity to express my grateful thanks to the following gentlemen who have been so good as to serve as Examiners:—

Arithmetic	Major A. F. Hamilton, R.E.
Algebra	J. A. Jones, Esq., M. Inst. C.E.
Euclid	A. S. Russell, Esq.
Mensuration	Colonel H. L. Prendergast, R.E.
Trigonometry and Statics	Lieut. W. L. C. Baddeley, R.E.
Building Materials and Construction	Colonel W. H. Burton, R.E.
Earthwork and Roadmaking	J. A. Jones, Esq., M. Inst. C.E.
Bridges and Irrigation Works	Colonel C. J. Smith, R.E.
Hydraulics	Major J. Pennycook, R.E.
Strength of Materials	F. B. Hanna, Esq., M.A., M.E., M. Inst. C.E.
Chain, Compass, and Sextant Surveying	Lieut. R. E. Hamilton, R.E.
Levelling	Lieut. F. J. Romilly, R.E.
Theodolite and Traverse	C. Vincent, Esq., A.I.C.E.
Drawing from Specification	E. W. Stoney, Esq., M. Inst. C.E.
Estimating	Major R. R. E. Drake-Brockman, R.E.
Tamil and Telugu	M.R.Ry. V. Krishnamachariyar Avargal.

7. None of the Examiners report that the class, as a whole, has done specially well in any subject, though individuals occasionally earn commendation. Colonel C. J. Smith speaks highly of Bombardier Donaghue's paper in Bridges and Irrigation Works, and also commends Gunner Richardson and Sergeant Rule. Gunner Richardson is, in addition, praised by Major Pennycook for his paper in Hydraulics and by Mr. Vincent for Theodolite and Traverse Surveying. A few of the Examiners consider that the answers to their papers do not reach the usual average. The general results, however, are best seen by comparing the average percentages of marks with those of previous years. Taking 1881, a suitable year for comparison, it will be found that at the recent examination there has been—

a rise of 1 per cent. in Engineering,
a fall of 6 per cent. in Mathematics,
a rise of 8 per cent. in Surveying and Levelling,
an unchanged percentage in Drawing and Estimating,
a rise of 5 per cent. in Language, and
an unchanged percentage on the total.

8. All seven candidates pass and receive certificates as Overseer, Public Works Department. Bombardier A. Donaghue stands first, gaining the Royal Engineer Officers' prize for general proficiency in his studies and the prize for Drawing and Estimating. Gunner J. Richardson is only one mark below. He obtains the prize for Mathematics and that for Surveying. Bombardier Healey, who takes the third place, is *facile princeps* in Mathematics, but, having been longer at the College than his companions, is ineligible for the prize in that subject. Corporal Rule stands fourth and secures the prize for Vernacular Language.

9. The Second Class of this Department consists of eleven students and has just undergone a satisfactory examination, the whole of the pupils being promoted to the First Class.

Gunner Coghlan stands first with 1,059 marks out of 1,425 and secures the prize for Drawing and Estimating; C. H. Edwards and M. P. Narasimha Aiyangar stand second and third respectively and are awarded civil scholarships of Rs. 15 each per mensem. Gunner Alford obtains the prize in Language; H. Subba Rau, F.A., is awarded a scholarship of Rs. 15 per mensem, and gains the prize for Mathematics; and

Sergeant Scudder, R.A., takes the prizes for Engineering and for Surveying and Levelling. The rest of the class have done fairly.

10. *Survey Class*.—The First Division, comprising six pupils, has been examined for certificates. All have passed, four, viz.,—

K. A. Krishnamachari,
P. Anandanathan,
V. Devasikhamani Pillai,
A. Ramaswami Mudaliyar,

gaining second-class certificates, and the rest third class. No prize is given, as the four senior men have all spent more than two years at the College.

11. The Second Division, consisting of three students, has done fairly. To R. Sivasubrahmanya Aiyar, who stands first, is awarded a scholarship of Rs. 8 per mensem and a prize for Surveying.

12. *Drawing Class*.—The First Division of ten students has done remarkably well. G. Narayanaswami Nayudu is *facile princeps* with 428 marks out of 500. He gains the rather unusual distinction of a first-class certificate as a Draughtsman and Estimator; H. Egna Lal and S. Muniswami Nayudu obtain second-class certificates; the next five men secure third-class certificates; and two, who have failed will be permitted to remain another year in the class. The prize is awarded to G. Ellis, his seniors having spent more than two Sessions at the College. A want of success in Estimating, a subject which seems to present peculiar difficulties to the class, has frequently been commented on in previous reports. A marked improvement is this year visible. This improvement and the general results of the examination reflect credit on Messrs. Hennessy and Hamilton, who have at different periods of the course had charge of the class.

13. In the Second Division the five pupils who have been examined are promoted to the First Division. Civil Scholarships of Rs. 8 per mensem are awarded to—

Sundaramanjulu Nayudu,
K. Sadagopa Mudaliyar, and
M. Embarayya Nayudu.

14. *Military Students*.—The Session commenced with eight students—five in the First Class of the Second Department and three in the Second. These numbers have been maintained to the present time.

Two men in the Vernacular Class at Bangalore are about to be examined in Language for entry to the College in August next.

Four Non-Commissioned Officers and men passed the Entrance Examination in April last and will join the Vernacular Class early in June.

15. *Employment of Passed Students—First Department*.—The students of the Engineer Classes look almost solely to the Public Works Department for employment. They pass out of the College with ample theoretical attainments, but their practical knowledge is confined to Surveying and Drawing and to so much of Building as can be acquired by inspecting and reporting upon works for the manufacture of materials and works of construction. It need not be said that a young Assistant Engineer can be of small practical utility until he has served on works and acquired a knowledge of the management of labor and of those numerous details which it is not within the compass or the capacity of an ordinary College course to furnish. The chief employers (other than the Public Works Department) of engineering knowledge have hitherto made little use of the passed men of the College Senior Department, probably because they will not incur the expense of affording practical training so long as individuals possessed of it remain available from the recent reductions in the Public Works Department.

Looking thus to the last-mentioned branch of the Government service, it was discouraging for the men who passed out of the Engineer Classes in 1878, 1879, and 1880 to observe that between August 1878 and October 1881 only one appointment was made, and it is not surprising to find that the numbers annually joining the

College fell from six in 1878 to two in 1880 and none in 1881. In October 1881, however, the Chief Engineer appointed five men who had secured certificates as Assistant Engineer and who had subsequently taken the degree of B.C.E. as Apprentice Supervisors in the Department, and, as an immediate result, nine Graduates and Under-graduates applied for admission, forming the largest Engineer Class which the College has seen for many years. The success of the student who passed out in December last has already been noticed, and I am happy to say that he has secured temporary employment on a substantial salary under the Madras Municipal Commission.

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To the Director of Public Instruction.
" Public Works Department.

Exd. T. O'Connor.

Govt. of (1882) Madras
EDUCATIONAL.

No 2218 W 2128 Aug 1882

Recorded

24.8.82

S. S. C

Issued

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AUGUST.

Civil Engineering College.

Ordering that the report on the working of the
— for 1881-82 be forwarded to the India Office.

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only 22/8. Re 28/8

24/9

With order
Sd. in Receipt Rysr