M.R.O. 14–5,450—22-10-25.

MADRAS RECORD OFFICE.

Government of Madras.

Revenue **DEPARTMENT.**

G.O. No. 2397 Press ~~Mis.~~

177-178

Dated 7-9- 1866.

Not to be folded or roughly handled

Proceedings of the Madras Government, Revenue Department, 7th September 1866.

No. 177. Read the following Proceedings of the Madras Government in the Educational Department:—

Passing orders on the schemes for training the Students of the Civil Engineering College in Surveying. } (Here enter 27th August 1866, No. 240.)

No. 178. ORDER THEREON, 7th September 1866, No. 2,397.

Miscellaneous.

Communicated to the Superintendent of Revenue Survey and the Board of Revenue.

(True Extract.)

(Signed) J. GROSE,

Under Secretary to Government.

To the Officiating Superintendent of Revenue Survey,
" the Board of Revenue. } with Procs. Educational Dept., No. 240.

Exd. S. T. Augustin.

Proceedings of the Madras Government, Educational Department, 27th August 1866.

Read the following papers:—

No. 55. From the Director of Public Instruction, to the Chief Secretary to Government, Fort Saint George; dated Madras, 25th July 1866, No. 1510.

Referring to Order of Government, No. 139, of the 8th May last, I have the honor to submit a letter from the Principal of the Civil Engineering College, No. 245, of the 16th instant, with enclosures.

2. It will be observed that the three courses of instruction proposed by Captain Edgcome are warmly approved of by the Acting Superintendent of the Revenue Survey. In these circumstances, I beg to recommend that the sanction of Government be given to the schemes of instruction. If this recommendation be approved, Captain Edgcome might be authorized to publish the schemes in the *Fort Saint George Gazette.*

From Captain W. H. EDGCOME, R. E., Principal, Civil Engineering College, to the Director of Public Instruction, Madras; dated Ootacamund, 16th July 1866, No. 245.

In compliance with Government Order, No. 139, dated 8th May 1866, I have the honor to submit a course of instruction in surveying for the students of the Civil Engineering College, adapted to the requirements of the Revenue Survey and Public Works Departments, and which has met with Major Hessey's full approval, as conveyed in his No. $\frac{1056}{196}$, dated 13th instant—copy herewith forwarded.

2. The course now submitted furnishes three grades of Surveyors. All the sections specially adapted to Revenue Survey requirements are denoted by *figures*, while those required by Public Works Department are distinguished by *letters*.

3. Since it is desirable that a Surveyor should be fitted for both Departments, and not for either exclusively, before a certificate of qualification for any grade can be obtained, he must have satisfactorily completed the full course laid down for that grade, and have passed a successful examination in the same.

4. I would suggest that these Tests, if sanctioned by Government, be notified in the *Fort Saint George Gazette.*

Course of instruction for 1st Class Surveyors.

1. Use of Chain. Each Student to drive the chain himself, and same line to be measured by each student as a check. The student should be practised in chaining over hills and broken ground.

2. Measurement of fields or compounds by the Khusrah method. The student should be practised in measuring a village demarcated for survey.

3. A survey of small extent to be made with the chain only; particular attention to be paid to the offsets. Topographical details to be laid in a village whose fields have been surveyed and plotted by the Khusrah method.

4. Use of Surveying and Prismatic Compass.

5. A survey of small extent to be made with *Compass and Chain.* [The same ground as that surveyed with chain only would be a good test].

6. Use and construction of scales.
   Simple, Diagonal, and Vernier scales.

7. Plotting sub-divisions of villages and minor circuits with offsets.

8. Plotting fields surveyed by Khusrah method.

9. Use of Plane Table.
   Sketching hills, and filling in details, with above instrument.

10. Use of Computing scale.
    (*a*) In calculating areas of fields and small circuits.
    (*b*) In calculating areas of offsets.
11. Use and adjustments of Theodolite.
12. Traversing Circuits of villages and sub-divisions of villages, setting up and working Traverses, computation of areas by Traverse Tables.
13. A pretty extensive survey to be made with Theodolite and Chain, including measurement of Base. Triangulation and computation of sides of Triangles.
14. Use and adjustments of Box Sextant.

The above will form specially the Revenue Survey Course.

(A) Use and adjustment of y Level and Gravatt's or Dumpy's Level.
(B) Cross and longitudinal sections of road and canal, and plotting the same.
(C) Laying out a canal or road in full detail, including ranging curves.
(D) Ghaut Tracing and Contouring.
Plotting in full detail all the above work, and coloring and properly finishing the Drawing.

OOTACAMUND,
11*th July* 1866.

(Signed) W. H. EDGCOME, Captain, R. E.,
Principal, Civil Engineering College.

Course of instruction for 2nd Class Surveyors.

Use of chain. Each student to drive the chain himself, and same line to be measured by each student as a check. The student should be practised in chaining over hills and broken ground.
2. Measurement of fields or compounds by the Khusrah method. The student should be practised in measuring a village demarcated for survey.
3. A survey of small extent to be made with the chain only; particular attention to be paid to the offsets. Topographical details to be laid in a village whose fields have been surveyed and plotted by the Khusrah method.
4. Use of Surveying and Prismatic Compass.
5. A survey of small extent to be made with *Compass and Chain.* [The same ground as that surveyed with chain only would be a good test].
6. Use and construction of scales.
   Simple, Diagonal, and Vernier scales.
7. Plotting sub-divisions of villages and minor circuits with offsets.
8. Plotting fields surveyed by Khusrah method.
9. Use of plane table.
   Sketching hills, and filling in details, with above instrument.
10. Use of computing scale.
    (*a.*) In calculating areas of fields and small circuits.
    (*b.*) In calculating areas of offsets.
11. Use and adjustments of Theodolite.
12. Traversing Circuits of villages and sub-divisions of villages, setting up and working Traverses, computation of areas by Traverse tables.

The above will form specially the Revenue Survey Course.

(A.) Use and adjustment of y Level and Gravatt's or Dumpy's Level.
(B.) Cross and longitudinal sections of road and canal and plotting the same.
(C.) Laying out a canal or road in full detail, including ranging curves.
Plotting in full detail all the above work, and coloring and properly finishing the drawings.

OOTACAMUND,
11*th July* 1866.

(Signed) W. H. EDGCOME, Captain, R. E.,
Principal, Civil Engineering College.

Course of instruction for 3rd Class Surveyors.

1. Use of chain. Each student to drive the chain himself, and same line to be measured by each student as a check. The student should be practised in chaining over hills and broken ground.
2. Measurement of fields or compounds by the Khusrah method. The student should be practised in measuring a village demarcated for survey.
3. A survey of small extent to be made with the chain only; particular attention to be paid to the offsets. Topographical details to be laid in a village whose fields have been surveyed and plotted by the Khusrah method.
4. Use of Surveying and Prismatic Compass.
5. A survey of small extent to be made with *Compass and Chain.* [The same ground as that surveyed with chain only would be a good test].
6. Use and construction of scales.
   Simple, Diagonal and Vernier scales.
7. Plotting sub-divisions of villages and minor circuits with offsets.
8. Plotting fields surveyed by Khusrah method.

The above will form specially the Revenue Survey Course.

(A.) Use and adjustment of y Level, and Gravatt's or Dumpy's Level.
(B.) Cross and longitudinal sections of road and canals, and plotting the same.
Plotting in full detail all the above work, and coloring and properly finishing the drawings.

OOTACAMUND,
11*th July* 1866.

(Signed) W. H. EDGCOME, Captain, R. E.,
Principal, Civil Engineering College.

From Major W. H. HESSEY, Acting Superintendent Revenue Survey, to the Principal, Civil Engineering College, Madras; dated Ootacamund, 13th July 1866, No. $\frac{1058}{196}$. $\frac{B}{1}$.

I have the honor to state that I have carefully examined the enclosures of your letter, No. 1, of 11th July 1866, and that I consider the course of instruction therein laid down admirably adapted to train Surveyors for service in the Revenue Survey Department.

2. I have to thank you for the attention you have paid to the suggestions I have made as to the training of the students.

No. 21.

No. 56. OFFICIAL MEMORANDUM.

In reply to the Memorandum from the Chief Secretary to Government, under date the 4th August 1866, No. 251, the undersigned has the honor to state that the courses of instruction in surveying proposed by Captain Edgcome for the different classes of Surveyors, are, in the opinion of the undersigned, in every way suitable to the requirements of the Department.

2. The undersigned, however, considers that the necessity of insisting upon each student acquiring a thorough practical acquaintance with the handling of the various Instruments which he is required to make use of should be pressed upon the attention of the Principal of the College, as experience has shown that it is in the knowledge of the manipulation of those instruments that the Surveyors sent out from the College are most ordinarily deficient.

FORT SAINT GEORGE,
9*th August* 1866.

(Signed) C. A. ORR, Colonel, R. E.,
Secy. to Govt., P. W. D.

To the Chief Secretary to Government, with six enclosures.

Proceedings of the Madras Government, Educational Department, 27th August 1866.

No. 57. ORDER THEREON, 27th August 1866, No. 240.

The Governor in Council considers the schemes now submitted for training the students of the Civil Engineering College in Surveying to be well adapted for qualifying them for the practical duties of their future calling. They are accordingly sanctioned, and the Principal is authorized to notify the schemes, as proposed, in the *Fort Saint George Gazette*.

2. Captain Edgcome will give attention to the suggestion contained in the Memorandum, above recorded, from the Secretary to Government, Public Works Department.

(True Extract).

Secretary to Government.

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

Exd. J. H. Burns.

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W. 2397.

Communicated to the Supdt. of Revenue Survey and the Board of Revenue

7th Sept 66.

2 Copies Letter Supdt of Revenue Survey
3 — Bd of Revenue
with Ord & D. No 240 Dated 27th

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Rev = 1866. Oct^br
Pro: of Govt for Sept^br
No. 2850

Proceedings of the Madras Govt in the Educational Depart.

Dated 27th Aug^t
Received 29th 1866.
No. 240.

Passing orders on the schemes for training the students of the Civil Engineering College in Surveying.

Ans. 297-7 Sept^r

Which order I

Rec^d 8th May 66 No. 49 & 20
of Mr Atwill Doft

A. 177 & 178

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