

CBCS SCHEME

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17MN45

Fourth Semester B.E. Degree Examination, July/August 2022 Mine Surveying – I

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the difference between Plane and Geodetic Surveying. (10 Marks)
b. Explain the various classification of Survey. (10 Marks)

OR

- 2 a. Explain the difference between Meridians and Bearings. (10 Marks)
b. Calculate the included angles A, B and C of a triangle from the following data:

Side	F.B.	B.B.
AB	45°	225°
BC	130°	310°
CA	270°	90°

(10 Marks)

Module-2

- 3 a. Following consecutive staff readings were taken with a level along sloping ground line AB. At a regular distance of 20m by using 4m leveling staff:
0.352 , 0.787 , 1.832 , 2.956 , 3.758 , 0.953 , 1.756 , 2.738 , 3.872 , 0.812 , 2.325 , 3.127
Rule out a page of level field book and enter the above readings. R.L of point A is 320.288
Calculate R.L of all points by rise and fall system and workout the gradient of line AB. (10 Marks)
b. Explain the method of Transfer of levels from surface to underground. (10 Marks)

OR

- 4 a. Determine the effect of Curvature and Refraction. (10 Marks)
b. Explain the various types of Levels. (10 Marks)

Module-3

- 5 a. Explain the various classification of Triangulation Survey. (10 Marks)
b. Explain the various corrections applicable for base line measurement. (10 Marks)

OR

- 6 a. Explain the various characteristics of Contours. (10 Marks)
b. Explain the various methods and uses of Contours. (10 Marks)

Module-4

- 7 a. Explain the construction and uses of Planimeter. (10 Marks)
b. Following perpendicular offsets were taken from a chain line to a curved boundary line at intervals of 10m.
0 , 7.83 , 5.26 , 6.45 , 7.33 , 7.87 , 8.23 , 0
Compute the area between the chain line, the curved boundary line and the end offsets by
(i) Average Ordinate rule (ii) Trapezoidal rule. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

OR

- 8 a. Explain the method of determining volume by
 (i) Spot level method (ii) Contour (10 Marks)
- b. Calculate the volume of earthwork by the use of prismatic formula for a proposed road of formation width 10m. The length of road is 60m and cross-section of the road at distance 0, 30 and 60m are shown in Fig.Q.8(b). The ground is sloping in transverse direction as shown in Fig.Q.8(b).

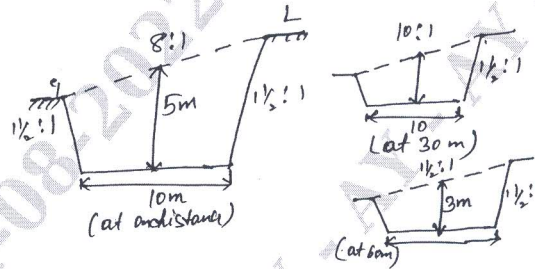


Fig.Q.8(b)

(10 Marks)

Module-5

- 9 a. Explain the method of measuring horizontal angles and vertical angles. (10 Marks)
- b. Explain the principles of Traversing and differentiate between open traverse and closed traverse. (10 Marks)

OR

- 10 a. Explain the methods of balancing of traverse. (10 Marks)
- b. Explain temporary adjustments required for a theodolite. (10 Marks)
