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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (CE) (Sem.–3rd)

SURVEY-I

Subject Code : CE-201

Paper ID : [A0601]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION-A

1. Answer briefly :

   a) Why is it important to 'work from the whole to part and never from part to whole' in surveying?

   b) What is meant by 'representative fraction'?

   c) Give the conventional signs used to represent the following surface features on a survey map (i) Compound wall (ii) Katcha Building

   d) Examine whether the triangle having sides 60 m, 40 m and 30 m is well conditioned or not.

   e) Differentiate between open and closed traverse.

   f) What is dip? How does it affect bearing measurement?

   g) List any two advantages of plain tabling.

   h) What is meant by reduced level?

   i) Differentiate between line of sight and line of collimation.

   j) What do you understand by 'temporary adjustments' of level?

SECTION - B

2. Explain 'Chaining by steps' in moving downhill.

3. In 1880 the bearing of a line was measured as N35°W. The declination of the needle was measured as 10°20'W at that time. In 1980, the declination was measured to be 14°40'W. What is the magnetic bearing of the line in 1980?

4. What is meant by closing error in a traverse? Explain the graphical method of adjustment of closing error.

5. An excavation is to be made for a reservoir 25 m and 15 m wide at the bottom and 3 m deep. The sides of excavation slope at 2 horizontal to 1 vertical. Assuming surface of ground level before excavation, calculate the volume of excavation.

6. The following readings are successively taken from an instrument in a leveling work :

   0.224, 0.354, 0.565, 1.765, 1.890, 2.400, 1.765, 0.330, 0.875, 1.245. The position of the instrument was changed after taking the 3rd and 6th readings. Draw out the level field book. If the RL of the first point was 100.00, calculate the RL of all other points using rise and fall method. Apply the check.

SECTION - C

7. Explain the terms with reference to contouring :

   a) contour interval   b) contour gradient

   c) interpolation of contour   d) contour maps

8. a) State the advantages and disadvantages of plane tabling. State the errors in plane tabling.

   b) Explain the two point problem and how is it solved?

9. Explain with sketches the use of :

   a) Abney level   b) Box sextant

   c) Clinometer   d) Dumpy level