Roll No. .....
Printed Pages : 2

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BT-3 / D-17

SURVEYING-I

Paper–EE-207 N

Time allowed : 3 hours] *[Maximum marks : 75*

Note : *Attempt five questions in all, selecting at least one question from each unit. Assume any missing data. All questions carry equal marks.*

Unit–I

1. (a) A Survey line ABC cuts the Banks of a river at B and C. To determine BC, a line BE, 60 m long was set out roughly parallel to the river. A point D was then found in CE produced and middle point F of DB determined. EF was then produced to G, making FG equal to EF, and DG produced to cut the survey line in H. GH = 40m and BH = 60m. Find out the distance B to C. 10

   (b) Definition of surveying and discuss its principle. 5

2. (a) Explain Local attraction and its examples. 8

   (b) A Survey line BAC crosses a river, A and C being on the near and distant banks. Standing at D, a point of 60m perpendicular to AB from A, the bearing of C and B are 320° and 230°. AB = 20m. Find width of river. 7

Unit–II

3. (a) Explain following terms with neat diagrams. 7
   Reduced level, Bench mark, Curvature and refraction. 7

   (b) The following reading were taken with a level and a 4m staff. Find out the R.L By Rise and tall method. 8

0.683, 1.109, 1.838, 3.399, 3.877, 0.451, 1.405, 1.896, 2.676, 3.478, 3.999, 1.834, 0.649, 1.706

4. Explain 3 point problem and two point problem in detail. 15

Unit–III

5. (a) Discuss the temporary adjustment of theodolite. 5

   (b) The Co-ordinates of two point A & b are as follows. 10

Points	Co-ordinates	
	Northing	Easting
A	500.25	640.75
B	840.78	315.60

6. Stadia readings were taken with a theodolite on a vertical staff with the telescope inclined at an angle of depression of 3°30'. The staff readings were 2.990 & 2.055 & 1.120. The R.L of the staff is 100m. and H.I is 1.40m. What is the R.L of the ground at the instrument. Take the constants 100 & 0. 15

Unit–IV

7. Explain the various methods of setting out the simple curves with neat diagrams. 15

8. (a) Discuss the transition curves and what are the requirements of transition curves. 8

   (b) Calculate the ordinates at 10m intervals for a circular curve. The long chord is 60m and the radius is 150m. 7