

Code No: R1621015

R16
SET - 1
II B. Tech I Semester Supplementary Examinations, May - 2018
SURVEYING

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

 Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)

 2. Answer **ALL** the question in **Part-A**

 3. Answer any **FOUR** Questions from **Part-B**

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**PART-A**

- 1 a) List the accessories of plane table.
- b) Define latitude and departure.
- c) List the leveling instruments
- d) What are 'face left' and 'face right' observations? Why is it necessary to take both face observations?
- e) Write in detail about GPS.
- f) How do you determine the earth work for a borrow pit?

**PART-B**

- 2 a) Compare the advantages and disadvantages of plane table surveying with those of chain surveying.
- b) State three-point problem plane tabling and describe its solution by trial method giving the rules which you will follow in estimating position of the point sought
- 3 a) The following bearings are taken on a closed compass traverse.

| Line | F.B         | B.B         |
|------|-------------|-------------|
| AB   | S 37° 30' E | N 37° 30' W |
| BC   | S 43° 15' W | N 44° 15' E |
| CD   | N 73° 00' W | S 72° 15' E |
| DE   | N 12° 45' E | S 13° 15' W |
| EA   | N 60° 00' E | S 59° 00' W |

Compute the interior angles and correct them for observational errors. Assuming the observed bearing of the line AB to be correct, adjust the bearing of the remaining sides.

- 4 a) What are the temporary adjustments of a leveling
- b) What are the indirect methods of locating a contour? Write about any one method.
- 5 a) Write the temporary adjustments of a transit theodolite
- b) Write the permanent adjustments of a theodolite
- 6 Two straights of a proposed road deflect through an angle of 120°. Originally, they were to be connected by a curve of 520meters radius. However, due to the revision of the scheme, the deflection angle is to be increased to 132°. Calculate the suitable radius of the curve such that the original starting point of the curve (P.C.) does not change

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- 7 The following perpendicular offsets were taken at 10m intervals from a survey line to an irregular boundary line:  
3.25, 5.60, 4.20, 6.65, 8.75, 6.20, 3.25, 4.20, 5.65  
Calculate the area enclosed between the survey line, the irregular boundary line and the first and last offsets by Simpsons method.

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