Code No: R1621015 **R16** SET - 1

II B. Tech I Semester Supplementary Examinations, May - 2019
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) What are the objects of Surveying?
b) Distinguish between closed traverse and open traverse.
c) Define contour interval and contour gradient.
d) Define the terms i) face left and face right observations. ii) swinging and transiting the telescope
e) What are the elements of a simple circular curve?
f) How do you compute areas along irregular boundaries?

PART-B

2 a) What is back bearing and what are the advantages of observing it in a traverse?
b) For the following traverse, find the length of DE so the A, E and F may be in the same straight line:

Line	Length in meters	R. B.
AB	200	S 84^0 30' E
BC	100	N 75^0 18' E
CD	80	N 18^0 45' E
DE	-	N 29^0 45' E
EF	150	N 64^0 10' E

3 a) Explain the Principle of electro optical EDM
b) Distinguish clearly between closed traverse and open traverse

4 a) Explain briefly temporary adjustment of theodelite
b) What are the indirect methods of locating a contour? Explain any one briefly. The constant for an instrument is 1200 and the value of additive constant is 0.4 meters.

5 Calculate the distance from the instrument to the staff when the micrometer readings are 6.262 and 6.258, the staff intercept is 2.5m and the line of sight is inclined at + 60 30', the staff being held vertically

6 A compound railway curve ABC is to have the radius of arc AB 600meters and that BC 400 meters. The intersection point V of the straights is located, and the intersection angle is observed to be 350 6'. If the arc AB is to have a length of 200meters. Calculate the tangent distances VA and VC.
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7 A rectangular plot ABCD forms the plane of a pit excavated for road work. E is point intersection of the diagonals. Calculate the volume of the excavation in cubic meters from the following data:

Point	A	B	C	D	E
Original level	45.2	49.8	51.2	47.2	52.0
Final level	38.6	39.8	42.6	40.8	42.5

Length of AB = 50 m and BC = 80 m.