Code: 19CE3303

II B.Tech - I Semester – Regular Examinations – MARCH 2021
SURVEYING
(CIVIL ENGINEERING)

Duration: 3 hours   Max. Marks: 70

Note: 1. This question paper contains two Parts A and B.
2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.
3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.
4. All parts of Question paper must be answered in one place.

PART – A

1. a) What do you understand by ranging a line?
   b) Mention the advantages of contour map.
   c) What are the fundamental objects of Tacheometry?
   d) What do you understand by setting out?
   e) What is EDM in Total station?

PART – B
UNIT – I

2. a) Define the following: 6 M
      i) Check line ii) Tie line and iii) Base line
   b) What are different kinds of chains used in linear   6 M
      measurements? Also explain in brief about the method
      of testing and adjustment of chain.

OR

3. Write short notes on the following: 12 M
   i) True and Magnetic bearing
   ii) Closing error in Traversing
   iii) Whole circle bearing and Reduced bearing

UNIT – II

4. What are the different methods in plane table surveying and explain any one method in detail? **12 M**

<div align="center">OR</div>

5. Explain in detail various methods of Interpolation of contours. **12 M**

UNIT-III

6. A tacheometer was set up at station P and observations were made to a staff held normal to the line of sight over point Q. The vertical angle measured was 6°36'. The three hair readings were 1.905, 2.480 and 3.055. The reading from P, with the line of sight horizontal to a BM of RL 852.55 was 1.855. If the instrument constants are 100 and 0.5, find the RL of Q. **12 M**

<div align="center">OR</div>

7. a) What are the different errors in Theodolite work? **6 M**

   b) Explain the parts of the Transit Theodolite with neat sketch. **6 M**

UNIT – IV

8. The chainage at the point of intersection of the tangents to a railway curve is 3876 links, and the angle between them is 124^0. Find the chainage at the beginning and end of the curve if it is 40 chains radius, and calculate the angles which are required in order to set out this curve with a chain only. **12 M**

<div align="center">OR</div>

9. A series of offsets were taken from a chain line to a curved 12 M
boundary line at intervals of 15 meters in the following
order. 0, 2.65, 3.80, 3.75, 4.65, 3.60, 4.95, 5.85m. Compute
the area between the chain line, the curved boundary and
the end offsets by,   a) average ordinate rule,
b) trapezoidal rule, and   c) Simpson's rule.

UNIT – V

10. a) Define triangulation. Also explain the classification of   6 M
triangulation.
b) What is meant by Base-net? Explain how you would   6 M
extend a base line.

OR

11. a) Define the principle and working of a total station.   6 M
b) Explain briefly Raster and Vector data representation in   6 M
GIS.