



R20 Regulation **Subject code: 3P3AC**
TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
 (Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech III Semester Supplementary Examinations, February 2024
SURVEYING & GEOMATICS
(CIVIL ENGINEERING)

Maximum Marks: 70

Date: 21.02.2024

Duration: 3 hours

- Note:**
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10X2M=20)

Marks)		CO	Bloom Tx
1	What are the main principles of surveying?		
2	What is Back Bearing?	CO1	L1
3	Differentiate between open and closed traverse.	CO1	L2
4	What do you understand by horizontal equivalent in contouring?	CO2	L2
5	Define Reiteration method.	CO2	L1
6	Write formula for Simpsons Rule?	CO3	L2
7	Define theodolite traversing?	CO3	L2
8	What is Trigonometrical leveling? and its uses.	CO4	L2
9	Define simple curve?	CO4	L1
10	Write the components of GPS?	CO5	L2
		CO5	L1

Part-B

Answer All the following questions.

(10M X 5=50Marks)

11	a) A chain line ABC crosses a river; the points B and C are on the near and distant banks, respectively. A line BD of 50m length is set-out at right angles to the chain line at B. if the angle BDC is 60° , find the width of the river. b) Explain Various methods of Direct Measurements.	5M 5M	CO1	L3 L2
	OR			
12	Differentiate between surveyors compass and prismatic compass. What types of adjustments are made in these compasses?	10M	CO1	L3
13	What are the characteristics of contours? Explain clearly with diagrams.	10M	CO2	L3
	OR			
14	a) What is leveling and explain different methods of leveling. b) What is Simpson's rule? What are its limitations?	5M 5M	CO2	L2 L2
15	Explain different cases when base of an object is inaccessible in trigonometric leveling. Draw sketches	10M	CO3	L3
	OR			

16	The elevations of two proposed triangulation stations A and B, are 140m and 416m above MSL, resp. The elevation of an intervening peak at C, 60km from A, which is likely to obstruct the line of sight, is 150m: Ascertain if A and B are intervisible, and if not, find the height required, for the scaffold at B so that the line of sight clears C by 3 m.	10M	CO3	L3
17	a) A leveling staff is held vertical sight distance of 100m and 300m from the axis of a tachometer and the staff intercepts for horizontal sights are 0.99m and 3.00 m, respectively. Find the constants of the instruments. The instrument is set up at a station A and the staff is held vertical at a point B. With the telescope inclined at an angle of depression of 10° to the horizontal, the readings on the staff are 2.670, 1.835, 1.000 m. Calculate the RL of B and its horizontal distance from A. The HI is 1.42 m and RL is 450.5m.	5M	CO4	L3
	b) Explain the temporary adjustments of theodolite.	5M		L2
OR				
18	a) Write about the various elements of Simple circular curve. b) Explain the classification of curves with neat sketches.	10M	CO4	L3 L2
19	Principle and Working of EDM Instrument.	10M	CO5	L3
OR				
20	What is total station? What are the important operation of total station Advantages of using Total station	10M	CO5	L2