R20 Regulation *Subject code: 3P3AC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech III Semester Supplementary Examinations, June 2026

SURVEYING AND GEOMATICS

(CE)

Maximum Marks: 70 Date: 16.06.2026 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)		Marks	CO	BTL
1	What is chain surveying?	2M	1	L1
2	Write about Plumb Bob with neat sketch.	2M	1	L1
3	What is local attraction for compass, give examples	2M	2	L1
4	Define Magnetic Meridian.	2M	2	L1
5	What are stadia and tangential methods of tacheometry?	2M	3	L1
6	Write formula for Simpsons Rule?	2M	3	L1
7	Mention the types of curves and their necessity.	2M	4	L1
8	What is stadia method of Tacheometry?	2M	4	L1
9	Define simple curve.	2M	5	L1
10	What is Total Station?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	a) Define true meridian, local attraction, magnetic declination, dip of needle and differentiate between Quadrantal bearing and whole circle bearing. b) What are the Objectives of surveying?	5M 5M	1	L2
	OR			
12	What are the types of obstacles in chain surveying. Explain them with neat sketches?	10M	1	L2
13	The following consecutive readings were taken with a level and 5m leveling staff on continuously slopping ground at a common interval of 20m: 0.385;1.030;1.925;2.825;3.730;4.685;0.625;2.005;3.110;4.485. The reduced level of the first point was 208.125m. Calculate the reduced level of the points by rise and fall method.	10M	2	L2
	OR			
14	a) What is leveling and explain different methods of leveling.? b) What is Simpson's. rule What are its limitations.?	5M 5M	2	L2

15	a) Explain in brief the various temporary adjustments of a theodolite? b) What are the different types of errors which can occur in theodolite surveying? How would you avoid them?	5M 5M	3	L2
	OR			
16	Briefly explain about the measurement of horizontal angle by reiteration method and repetition Method.	10M	3	L2
17	Explain different systems of tacheometry measurements.	10M	4	L2
	OR			
18	a) Derive relation between Degree and Radius of curve. b) What is Compound Curve and draw the sketches?	5M 5M	4	L2
19	Explain different types of EDM instruments with sketch.	10M	5	L2
	OR			
20	Discuss various applications of GPS.	10M	5	L2