R18 Regulation *Subject code:2P3AB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech III Semester Supplementary Examinations, June 2026

SURVEYING & GEOMATICS

(CE)

Maximum Marks: 70 Date: 11.06.2026 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	Define plane and geodetic surveying.	2M	1	L1
2	What is Triangulation?	2M	1	L1
3	State methods of Levelling.	2M	2	L1
4	Write any two Contour Characteristics.	2M	2	L1
5	What are the temporary adjustments in Theodolite?	2M	3	L1
6	How do you check the correctness of closed traversing?	2M	3	L1
7	How do you find distance using tacheometry?	2M	4	L1
8	State Elements of Simple Curve.	2M	4	L1
9	State the Bowditch's rule in balancing the traverse.	2M	5	L1
10	What are `face left' and `face right' observations	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	What is ranging. When reciprocal ranging is used and write down the procedure with sketch.	10M	1	L2
	OR			
12	Explain the use and working of line ranger with a neat sketch.	10M	1	L2
13	An excavation is to be made for a reservoir 26m long and 12m wide at the bottom, having the side of the excavation slope at 2 horizontal to 1 vertical. Calculate the volume of excavation if the depth is 3m. The ground surface is leveled before excavation.	10M	2	L2
	OR			
14	What are the methods of determination of area from plan? Explain any one method with the help of a neat sketch.	10M	2	L2

15	While traversing closed traverse ABCD due to obstructions it was not possible to observe the bearings of lines BC and CD. Calculate the missing bearings. **Line** / **Length(m)** / **WCB** AB / 550 / 60^{O} BC / 1200 / ? CD / 880 / ? DA / 1050 / 310^{O}	10M	3	L2
	OR			
16	In levelling between two points A and B opposite banks of a river, the level was set up near A , and the staff readings on A and B were 1.285 and 3.680 m . The level was then moved and set up near B and the respective readings on A and B were 0.876 and 1.228. Find the true difference of level between A and B.	10M	3	L2
17	Discuss the methods of tacheometric surveying with neat sketches.	10M	4	L2
	OR			
18	Explain the setting out of simple curve by two theodolite methods by neat sketch.	10M	4	L2
19	What is Electromagnetic wave theory? Explain Electromagnetic distance measuring system.	10M	5	L2
	OR			
20	Explain applications and observations of GPS.	10M	5	L2