



Regulation: R18

Subject Code: 2P3AB

# TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

## B.Tech III Semester Supplementary Examinations, July 2022

### Surveying & Geomatics

(Civil Engineering)

Maximum Marks: 70

Date: 21.07.2022

Duration: 3 hours

#### Part-A

All the following questions carry equal marks

(10 x 2M = 20 Marks)

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

#### Part-B

Answer any all the questions.

(5 x 10M = 50 Marks)

11. What is ranging. When reciprocal ranging is used and write down the procedure with sketch. [10M]

OR

12. Explain the use and working of line ranger with a neat sketch. [10M]

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 horizontals to 1 vertical. Calculate the volume of excavation if the depth is 3m. The ground surface is leveled before excavation. [10M]

OR

14. What are the methods of determination of area from plan? Explain any one method with the help of a neat sketch. [10M]

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. [10M]

Line	Length(m)	WCB
AB	550	60°
BC	1200	?
CD	880	?
DA	1050	310°

OR

16. The coordinates of traverse stations of a closed traverse ABCDE are given in table: [10M]  
Calculate the area enclosed by the traverse ABCDEA:

station	x(m)	y(m)
A	0	0
B	+180	+330
C	+460	+90
D	+330	-130
E	-50	-210

17. Discuss the methods of tacheometric surveying with neat sketches. [10M]

OR

18. Explain the setting out of simple curve by two theodolite methods by neat sketch.

19. What is Electromagnetic wave theory? Explain Electromagnetic distance measuring system. [10M]

OR

20. Principle and working of EDM instruments. [10M]