

ANURAG Engineering College

(An Autonomous Institution)

II B.Tech. I Semester Supplementary Examinations, June/July – 2024

SURVEYING & GEOMATICS

(CIVIL ENGINEERING)

Time: 3 Hours**Max. Marks: 75****Section – A (Short Answer type questions)****(25 Marks)****Answer All Questions**

	Course Outcome	B.T Level	Marks
1. Explain principles of surveying?	CO1	L1	2M
2. Differentiate between Engineers chain and Guntur's chain?	CO1	L2	3M
3. What are the different methods of contour surveying?	CO2	L2	2M
4. What are the effects of curvature on earth?	CO2	L1	3M
5. What are the temporary adjustments of theodolite?	CO3	L1	2M
6. Explain the methods of traversing?	CO3	L2	3M
7. What are the elements of simple curve?	CO4	L1	2M
8. What are differences between stadia and tangential methods of Tacheometry?	CO4	L2	3M
9. Explain about aerial triangulation?	CO5	L1	2M
10. Write the difference between map and mosaic?	CO5	L2	3M

Section B (Essay Questions)**Answer all questions, each question carries equal marks.****(5 X 10M = 50M)**

11. A) List different methods of making linear measurements? Explain the principle on which chain survey is based? CO1 L2 10M
- OR**
- B) Following is the data regarding a closed compass traverse PQRS taken in a clock wise direction Fore bearing and back bearing at station P= 55° and 135° , respectively • Fore bearing and back bearing of line RS = 211° and 31° , respectively • Included angles $\angle Q = 10^{\circ}$ $\angle R = 105^{\circ}$ • Local attraction at station R=20W • All the observations were free from all the errors except local attraction. From the above data: (i) Calculate the local attraction at stations P and S. (ii) Calculate all the lines' corrected bearings and tabulate the same CO1 L3 10M
12. A) A dumpy level was setup at L1 exactly midway between A and B, 50m apart. The readings on the staff when held on A and B were, respectively, 1.40m and 2.40m. The instrument was then shifted and set up at point L2 on the line BA produced and 10m from A. The readings on the staff held at A and B were, respectively, 1.5 and 2.60. Determine the correct readings and the R.L. of B if that of A is 200.00. CO2 L3 10M
- OR**
- B) Describe in detail about the finding of volume from spot levels and contours? CO2 L2 10M
13. A) How do you perform the check on the accuracy of a closed traverse? Explain CO3 L3 10M

OR

- B) Determine correction for latitude & departure and closing error of line, CO3 L2 10M

Line	Length(m)	Back bearings
AB	140	42°
BC	160	110°
CD	180	200°
DA	150	280°

14. A) Explain the different Principle and types of E.D.M. Instruments? CO4 L3 10M

OR

- B) A tacheometer was setup at station A, and the readings on a vertically held staff at B were 2.255, 2.605 and 2.955, the line of sight being at an inclination of $+80^\circ 24'$. Another observation on the vertically held staff at B.M gave the readings 1.640, 1.920 and 2.200, the inclination of the line of sight being $+106'$. Calculate the horizontal distance between A and B and the elevation of B if the R.L of B.M is 418.685m. The constants of the instruments were 100 and 0.3. CO4 L2 10M

15. A) What is Photogrammetry? Explain its merits and demerits when compared with other? CO5 L2 10M

OR

- B) Explain the following: i) Terrestrial photogrammetry, ii) Aerial triangulation and iii) Mapping using stereo plotting instruments
iv) Radial triangulation CO5 L3 10M