Total No. of Printed Pages: 2

PRN No.	

PAPER CODE	U314-215-B (ESE

(AY:2024-25) December 2024 (ENDSEM) EXAM

TY B.TECH (SEMESTER - I)

COURSE NAME: ADVANCED SURVEYING Branch: CIVIL ENGG COURSE CODE: CVUA31205B

(T.Y. B.Tech PATTERN 2020)

Time: [1Hr 30 Min] **[Max. Marks: 40]**

(*) Instructions to candidates:

1) **Figures to the right indicate full marks. Use of scientific calculator is allowed**
2) **Use suitable data wherever required**
3) **All questions are compulsory. Solve any two sub question each from Questions 1 and 2**
4) **Solve any one sub question (2 marks) from Questions 3 ,4 ,5 and 6 and sub question of 4 marks is compulsory from questions 3,4,5, and 6**

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) An observer standing on the deck of a ship just sees a lighthouse top with his eye at a height of 9m. The top of the lighthouse is 64m above mean sea level. Determine the distance of the observer from the lighthouse.	[4]	1	Apply
	b) Two triangulation stations A & B are 60 km apart and have elevation 240m and 280m respectively. Determine the minimum height of signal required at B so that the line of sight may not pass near the ground less than 2m. The intervening ground may be assumed to have a uniform elevation of 200m.	[4]	1	Apply
	c) Correct the observed vertical angle for height of signal, refraction, and curvature from the following data: Observed vertical angle=+2°48'39"; height of instrument=1.12m; height of signal=4.87m; horizontal distance=5112m; co-efficient of refraction= 0.07; Rsin1" = 30.88m	[4]	1	Apply
Q2	a) Determine the most probable value of angle B from the following observation equation: B = 32° 30' 40" 3B = 90° 30' 50" 4B = 120° 55' 30"	[4]	2	Apply
	b) Determine most probable value of angles P, Q, R and S which close the horizon P= 100° 30' 22" wt. 1	[4]	2	Apply

	Q= 80° 40' 10" wt. 2 R= 90° 20' 08" wt.3 S=88° 29' 25" wt. 4 c) Determine most probable value of the angles of a triangle ABC given by the following data. A= 62° 14' 12" wt. 1 B= 48° 12' 14" wt. 3 C= 69° 33' 28" wt. 2 (Use method of correlates)	[4]	2	Apply
Q3	a) List the three segments of SBPS. OR b) Explain with a sketch multi-path error in SBPS c) Differentiate between Absolute positioning and Relative positioning	[2] [2] [4]	3 3 3	Understand Understand Apply
Q4	a) Define Remote Sensing. OR b) Define photo-interpretation c) Explain with example Active and Passive remote sensing.	[2] [2] [4]	4 4 4	Understand Understand Apply
Q.5	a) Define GIS. OR b) List two basic data structures in GIS c) Explain three basic kinds of vector entities with examples.	[2] [2] [4]	5 5 5	Understand Understand Apply
Q.6	a) Define photo Principal point OR b) Define Flying height in aerial photogrammetry c) The distance from the principal point to an image on a photograph is 6.44cm, and the elevation of the object above the datum is 250m. What is the relief displacement of the point if the datum scale is 1:10,000 and the focal length of the camera is 20cm.	[2] [2] [4]	6 6 6	Understand Understand Apply