



CBGS SCHEME - Make-Up Exam

BCV302

Third Semester B.E/B.Tech. Degree Examination, June/July 2025 Engineering Survey

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks, L: Bloom's level, C: Course outcomes.

Module - 1			M	L	C
1	a.	Briefly explain classification of survey based on nature of survey.	8	L2	CO1
	b.	Explain briefly Hydrographic survey and Underground survey.	8	L2	CO1
	c.	Explain briefly Electronic Distance measurement.	4	L2	CO1

OR

2	a.	Define Surveying. Briefly explain classification of survey based on curvature.	8	L2	CO1
	b.	Explain briefly cadastral survey and Topographical surveying.	8	L2	CO1
	c.	Explain various types of tapes.	4	L2	CO1

Module - 2

3	a.	Explain following : (i) Bench Mark (ii) Mean Sea Level (iii) Datum (iv) Elevation	8	L1	CO1
	b.	In running fly levels from a Bench Mark of RL 384.705, the following readings were obtained : Back sight : 3.215, 1.030, 1.295 and 1.855 Fore sight : 1.225, 3.290, 2.085 From the last position of the instrument six pegs at 25 m intervals are to be set out on a uniformly falling gradient of 1 in 100, the first peg is to have R.L of 384.500. Work out the staff readings required for setting the top of the pegs on the given gradient.	12	L3	CO2

OR

4	a.	Explain the measurement of horizontal angle by method of repetition method with necessary standard figure and tabular format.	10	L2	CO1
	b.	During a construction work, the bottom of a RC Chejja 'A' was taken as a temporary BM (R.L.63.120) the following notes were recorded. <ul style="list-style-type: none">• Reading on inverted staff on B.M. 'A' : 2.232• Reading on peg 'P' on ground : 1.034 change of instrument.• Reading on peg 'P' on ground : 1.328• Reading on inverted staff on bottom of cornice B : 4.124 Enter the readings in a level book page and calculate the RL of Cornice 'B'.	10	L3	CO1

Module – 3						
5	a.	Explain the procedure for measurements of co-ordinates using total station.	12	L2	CO1	
	b.	Enumerate procedure of data transferring from total station to computer.	8	L3	CO1	
OR						
6	a.	Describe characteristics of contours with corresponding sketch.	12	L2	CO3	
	b.	Provide details as to how Contour maps are useful.	8	L3	CO1	
Module – 4						
7	a.	Two tangents intersect at a chainage of 1190 m, the deflection angle 36° . Compute all the data necessary to set out a curve of radius 300 m by deflection angle method. The peg interval is 30 m. Tabulate the results.	10	L3	CO1	
	b.	A railway embankment is 10 m wide with side slope 1.5 to 1. Assuming the ground to be level in a direction transverse to the centre line, calculate the volume by prismoidal and trapezoidal formula contained in length of 120 m, the centre heights at 20 m intervals being in meters 2.2, 3.7, 3.8, 4.0, 3.8, 2.8, 2.5.	10	L3	CO2	
OR						
8	a.	With a neat sketch, derive an expression to calculate tangential angle for simple curve by Rankine's Method.	10	L3	CO2	
	b.	The following perpendicular offsets were taken from a chain line to a curved boundary line at intervals of 15 m in the following order : 0, 2.65, 3.80, 3.75, 4.65, 3.60, 4.95, 5.85 m. Compute the area between the chain, the curved boundary and the end offset by trapezoidal and Simpson's rule.	10	L3	CO2	
Module – 5						
9	a.	List any five application of Drones.	5	L1	CO1	
	b.	List different types of drones.	5	L1	CO1	
	c.	Explain Drone surveying process.	10	L2	CO1	
OR						
10	a.	Describe 3 segments of GPS system.	5	L1	CO1	
	b.	Explain about Absolute and Differential positioning with GPS.	5	L2	CO1	
	c.	Explain any two application and uses of Remote Sensing and GIS in Civil Engineering surveying.	10	L2	CO2	

* * * * *