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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
Q.1	a.	Briefly explain classification of survey based on object of survey.	8	L1	CO1
	b.	Explain briefly plane table survey and cadastral survey.	8	L2	CO1
	c.	Explain briefly concept of electronic distance measurement.	4	L1	CO1
		OR			
Q.2	a.	What is surveying? Briefly explain classification of survey based on nature survey.	8	L2	CO1
	b.	Explain topographical survey and cadastral survey.	8	L2	CO1
	c.	Explain various types of tapes.	4	L1	CO1
		Module – 2			
Q.3	a.	Explain the measurement of horizontal angle by repetition method with necessary standard tabular format.	8	L2	CO2
	b.	In running fly levels from a benchmark of RL 384.705, the following readings were obtained : Back sight : 3.215, 1.030, 1.295 and 1.885 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 of 1 in 100, the first peg is to bare RL of 384.500. Work out the staff readings required for setting the tops of the pegs on the given gradient.	12	L3	CO2
		OR			
Q.4	a.	Explain the following Bench Mark mean sea level, datum, elevation.	8	L2	CO2
	b.	The following consecutive reading were taken with a level and 3 metre leveling staff on a continuously sloping ground at a common interval of 20 meter 0.602, 1.234, 1.860, 2.574, 0.238, 0.914 1.936, 2.872, 0.568, 1.824, 2.722 RL of first point was 192.122. Rule out page of a level field book and enter the above reading. Calculate the reduced levels of the points and also the gradient of the line joining the first and the last point?	12	L3	CO2
		Module – 3			
Q.5	a.	Explain user of contour map.	4	L1	CO3
	b.	Explain characteristics of contours.	8	L2	CO3
	c.	What do you mean by contour? Explain the factors governing the choice of proper contour interval.	8	L2	CO3
		OR			
Q.6	a.	Explain the following station, turning point, fore sight and back sight.	8	L2	CO3
	b.	Explain the procedure for measurements of coordinator using total station.	8	L2	CO3
	c.	With a neat sketch explain profile leveling.	4	BL2	CO3

Module – 4					
Q.7	a.	A railway embankment is 10 m wide with side scope 1.5 to 1. Assuming the ground to belevel 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	CO4
	b.	The following perpendiculars 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 offsets by trapezoid and Simpson's rule.	10	L3	CO4
OR					
Q.8	a.	With a neat sketch derive an expression for simple curve by Rrankine's method.	10	L2	CO4
	b.	Two tangents interest 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	CO4
Module – 5					
Q.9	a.	Explain sources of errors in GPS.	10	L2	CO5
	b.	Explain any two applications and uses of remote sensing and GIS in civil engineering surveying.	10	L2	CO5
OR					
Q.10	a.	Explain application and advantages of Drone in surveying.	10	L2	CO5
	b.	Explain Drone surveying requirements.	10	L2	CO5

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