## CBCS SCHEME

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## Third Semester B.E./B.Tech. Degree Examination, Dec.2023/Jan.2024 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.	Explain in brief about:	10	L2	CO1
		i) Topographical survey			
	-	ii) Cadastral survey		. " 4	
	å	iii) Hydrographic survey		1 × 2 ×	
		iv) Control survey			
		v) Under ground survey.	v	5.8	8 X
	b.	Discuss in detail about the advantages and disadvantages of plane table	5	L2	CO
		survey.			
	c.	Explain classification of survey by objective of survey.	5	L2	CO
		OR			
Q.2	a.	Discuss in detail about the EDM.	10	L2	CO
	b.	List and discuss the sources of errors in compass survey.	5	L2	CO
	c.	Explain the classification of survey by nature of survey.	5	L2	CO
		Module – 2	1		
Q.3	a.	Explain in detail the procedure for the measurement of horizontal angle by	10	L2	CO
V.0		thedolite by repetition method.			
	b.	What are the accessories and advantages of total station survey?	5	L2	CO
	c.	The following staff readings were observed successively with a level the	5	L3	CO
		instrument is moved by 3 <sup>rd</sup> , 6 <sup>th</sup> and 8 <sup>th</sup> readings 2.228, 1.606, 0.988, 2.090,			
		2.864, 1.262, 0.602, 1.982, 1.044, 2.684m record the readings in a level	5.		
		book and calculate RL, if the first reading was taken at a B.M of 432.384m			
		use HI method.	100		
		OR		l	8 %
Q.4	a.	Explain in detail the procedure for differential leveling by plane of	10	L2	CO
	X.	collimation method using dumpy level.	ži V	7	ř -
	b.	Explain in detail how horizontal angle is measured with the total station.	5	L2	CO
6	c.	The following observations were taken with dumpy level and 4m leveling	5	L3	CO
		staff. The instrument was shifted after 4 <sup>th</sup> and 7 <sup>th</sup> reading. The first reading			
		was taken on a bench mark whose RL was 15.575m. Prepare a page of level		12	
		book and calculate RL of all the points. The observations were taken at			W X
		every 30m interval. Also find out the gradient between first and last point			
		use rise and fall method. Observations are 0.565, 1.250, 1.675, 3.695,		24.5	
		0.125, 2.345, 0.500, 1.785 and 2.535.	5	12	
		1 of 2			
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b. Explain the procedure of conducting the L/S and C/S by using level.  OR  OR  OB  Discuss in detail about contouring using level.  ID L2 CO  Module - 4  OT  a. For applying Rankine's method, provide the procedure of setting out of horizontal curve.  D. Explain the procedure of setting out two room building by center line method.  OR  OR  OR  OT  A railway embankment is 10m wide with side slope 1 1/2 to 1. Assuming the ground to be level in a direction transverse to the center heights at 20m intervals being in meters are 2.200, 3.700, 3.800, 4.000, 3.800, 2.800, 2.500.  Calculate volume by trapezoidal rule and prismoidal rule.  Module - 5  OR  OR  OR  OR  OR  OR  OR  OR  OR  O					BC	V302
b. Explain the procedure of conducting the L/S and C/S by using level.  10			Module – 3			
DR  OR  OR  OR  OR  OR  OR  OR  OR  OR	Q.5	a.		10		CO3
Discuss in detail about contouring using level.   10   L2   CO		b.	Explain the procedure of conducting the L/S and C/S by using level.	10	L2	CO3
b. Explain how coordinates are measured using total station.    10			OR			
Module — 4 Q.7 a. For applying Rankine's method, provide the procedure of setting out of horizontal curve.  b. Explain the procedure of setting out two room building by center line method.  OR Q.8 a. Explain how areas are measured by trapezoidal and Simpson's rule.  b. A railway embankment is 10m wide with side slope 1 \frac{1}{2} to 1. Assuming the ground to be level in a direction transverse to the center line, calculate the volume contained in a length of 120m, the center heights at 20m intervals being in meters are 2.200, 3.700, 3.800, 4.000, 3.800, 2.800, 2.500.  Calculate volume by trapezoidal rule and prismoidal rule.  Module — 5 Q.9 a. What is absolute and differential positioning with GPS? Explain about 10 L2 Company of the content of th	Q.6	a.	Discuss in detail about contouring using level.	10	L2	CO
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