

Reg.No.:



VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 170004

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – NOV. / DEC. 2025

Third Semester

Civil Engineering

U23CE304 – SURVEYING - I

(Regulation 2023)

Time: Three Hours

Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	List the methods of ranging.	2	K1	CO1
2.	State the meaning of surveying and mention its principles.	2	K2	CO1
3.	Mention the temporary adjustments required in a leveling Instruments.	2	K1	CO2
4.	State the meaning of contour and write its applications.	2	K1	CO2
5.	Name the main components of a theodolite.	2	K2	CO3
6.	Write short notes on traversing in theodolite surveying.	2	K2	CO3
7.	Distinguish between stadia and tangential methods.	2	K1	CO4
8.	Write the significance of tacheometry and state its principle.	2	K1	CO4
9.	Give the meaning of reconnaissance survey.	2	K2	CO5
10.	Write a short notes on Mean Sea Level (MSL).	2	K1	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	Discuss the types of compass and explain the procedure to eliminate local attraction.	13	K3	CO1
(OR)				
b)	Describe the radiation and intersection methods in plane table surveying.	13	K3	CO1

12.	a)	With a neat sketch, explain the methods for plotting longitudinal and cross sections.	13	K3	CO2
(OR)					
	b)	The following staff readings were taken with a dumpy level on a continuously sloping ground at a uniform spacing of 30 m: 0.965, 1.845, 2.465, 3.215, 0.685, 1.445, 2.115, 3.045, 0.955, 1.265, 1.965 and 2.785. The R.L. of the first point is 152.350 m. Enter the readings in a level field book, calculate the reduced levels by the Rise and Fall method, and determine the gradient of the line joining the first and last points.	13	K3	CO2
13.	a)	Describe the method for calculating omitted measurements in a theodolite traverse.	13	K3	CO3
(OR)					
	b)	With a neat sketch, explain the method of determining heights and distances using a theodolite.	13	K3	CO3
14.	a)	Describe the stadia method of tacheometry for horizontal and inclined sights.	13	K2	CO4
(OR)					
	b)	Discuss the use of digital field data loggers with AI in modern surveying.	13	K2	CO4
15.	a)	Describe the reconnaissance, preliminary, and location surveys for irrigation projects.	13	K3	CO5
(OR)					
	b)	Explain the methods of hydrographic surveying and determination of tides.	13	K3	CO5

PART – C

(1 x 15 = 15 Marks)

Q.No.	Questions	Marks	KL	CO
16	a) A new road project is to be laid connecting two towns. Explain the complete surveying process starting from reconnaissance to location survey including levelling, theodolite and tacheometric applications.	15	K2	CO4
(OR)				
	b) Discuss how AI-assisted instruments like laser levels, digital data loggers, and GPR enhance the accuracy and efficiency of modern engineering surveys.	15	K3	CO5