

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS NOV/DEC 2025***Third Semester**Agricultural Engineering***UAIT24303- Surveying and Levelling***Regulations - 2024**Duration : 3 Hrs**Maximum : 100 Marks***PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

<i>Q.No</i>	<i>Questions</i>	<i>BTL</i>	<i>CO</i>	<i>Marks</i>
1.	Recall the principles of surveying.	L1	1	2
2.	Differentiate surveyor compass with prismatic compass.	L1	1	2
3.	Compare vertical line and horizontal line.	L2	2	2
4.	Outline the methods of levelling.	L2	2	2
5.	What is mean by temporary adjustments of a theodolite?	L1	3	2
6.	State the uses of theodolite.	L1	3	2
7.	What is vertical control in surveying?	L1	4	2
8.	Define the principle of least squares method in adjustment.	L1	4	2
9.	List out the errors in total station.	L1	5	2
10.	State the applications of GPS.	L1	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a i Explain the various methods of chaining with neat sketches and describe it briefly.	L2	1	8
	ii Explain surveying, its principle and types in detail.	L2	1	8
	Or			
	b i The following bearings were observed while traversing with a compass. Find which of the stations are suffering from local attraction and give the corrected bearing.	L2	1	8

Line	Fore bearing	Back bearing
AB	75°05'	254°20'
BC	68°15'	246°00'
CD	310°30'	135°15'
DE	200°15'	17°45'

ii	Explain bearing and its significance.	L2	1	8
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12.	a	i	Describe about the different types of adjustments.	L2	2	8
		ii	Explain with neat sketches about fly levelling and Check levelling in detail.	L2	2	8
Or						
	b	i	List and explain the main steps in carrying out a levelling operation.	L2	2	6
		ii	Apply the combined correction for curvature and refraction for a distance of a) 3500metres b) 1.25 km c) 215 km.	L2	2	10
13.	a	i	Demonstrate the angle measuring procedure using theodolite.	L2	3	8
		ii	Infer the temporary adjustments of a transit theodolite.	L2	3	8
	Or					
	b	i	Identify the difference between tangential and stadia tachometry. How will you determine the stadia constants? Neat sketches.	L2	3	8
		ii	Explain the Single Plane method of tacheometry with neat sketch.	L2	3	8
14.	a	i	Discuss the methods of vertical control used in control surveying.	L3	4	8
		ii	With neat sketches, describe triangulation and traversing methods of control surveying.	L3	4	8
	Or					
	b	i	Discuss error propagation and linearization in surveying measurements.	L3	4	8
		ii	Explain the adjustment of angles, lengths, and levelling network using the method of least squares.	L3	4	8
15.	a	i	Identify the areas where EDM will be used and explain its types.	L3	5	8
		ii	Explain the principle and working of an Electronic Field Book.	L3	5	8
	Or					
	b	i	Explain in detail about anti-spoofing and selective availability.	L3	5	8
		ii	Summarize briefly the sources of errors in GPS and the hand held and geodetic receiver of GPS.	L3	5	8