

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E./B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025***Third Semester**Civil Engineering***CE3351 – Surveying and Levelling****(Common to Agricultural Engineering)***Regulations – 2021**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.	What is meant by well-conditioned triangle?	L1	1	2
2.	Outline the advantages of plane table surveying.	L2	1	2
3.	Define benchmark. Mention its types.	L1	2	2
4.	What do you mean by curvature and refraction in levelling.	L1	2	2
5.	Mention the temporary adjustments of a theodolite.	L1	3	2
6.	What is tacheometric surveying and list its uses?	L1	3	2
7.	Define triangulation and trilateration.	L1	4	2
8.	What do you mean by least squares adjustment?	L1	4	2
9.	List the main components of a Total Station.	L1	5	2
10.	State the advantages of GPS over conventional methods of surveying.	L2	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 Construct the methods of traversing using chain and compass.	L3	1	16
	Or			
	b Determine the values of included angles in the closed compass traverse ABCD conducted in clockwise direction, given the following fore bearings are listed:	L3	1	16
	Line FB AB 40° BC 70° CD 210° DA 280°.			
	Apply check.			
12.	a The following consecutive readings were taken at 20m intervals along a chain line. The readings were 2.375, 1.730, 0.615, 3.450, 2.835, 2.070, 1.835, 0.935, 0.435, 1.630, 2.255 and 3.360m. The instrument being Shifted after 4 th and 8 th readings. R.L of B.M is 100.500. Find the R.L.	L3	2	16
	Or			
	b What is contour? Build the characteristics of contour and its methods.	L3	2	16

13.	a	Explain the procedure of measuring horizontal and vertical angles using a theodolite.	L2	3	16
		Or			
	b	State the principle of tacheometric surveying and derive the expressions for horizontal distance and elevation using stadia method.	L2	3	16
14.	a	Analyze the methods of establishing horizontal and vertical control in surveying.	L4	4	16
		Or			
	b	Find the most probable value of the following: A = 60° 25' 30" B = 63° 45' 15" C = 55° 49' 20".	L4	4	16
15.	a	Construct the working principle, components, and field procedure of a Total Station.	L3	5	16
		Or			
	b	Apply the principles of GPS surveying for data acquisition and discuss the sources of GPS errors.	L3	5	16