PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – October 2025

Date 10-10-2025   **Time:** 09.30am to 11.00am

School: SOE	**Program:** B.Tech
Course Code : CIV2101	**Course Name:** Surveying.
Semester: III	**Max Marks**: 50 **Weightage**: 25%

CO - Levels	CO1	CO2	CO3	CO4	CO5
Marks	26	24	-	-	-

Instructions:

(i) *Read all questions carefully and answer accordingly.*

(ii) *Do not write anything on the question paper other than roll number.*

Part A

Answer ALL the Questions. Each question carries 2marks.   **5Q x 2M=10M**

1	What are the objectives surveying?	2 Marks	L1	CO1
2	Convert the following Quadrantal bearings to Whole circle bearings. a) QB of AB – S36°30'W b) QB of BC – S43°30'E	2 Marks	L1	CO2
3	Convert the Following Whole circle bearing reading to respective Quadrantal bearings. a) WCB of AB – 45°30' b) WCB of DE – 320°30'	2 Marks	L1	CO2
4	Surveying is the art of determining the relative positions of different objects on the surface of the earth by measuring the horizontal distance between them. Write the uses of surveying.	2 Marks	L1	CO1
5	List the types of offsets in chain surveying.	2 Marks	L1	CO2

Part B

Answer the Questions.   **Total Marks 40M**

6.	a.	Differentiate between Plane survey and Geodetic Survey.	10 Marks	L2	CO1
		Or			
7.	a.	Explain the different types of map.	10 Marks	L2	CO1

8.	a.	A line was measured with a steel tape which was exactly 30-meter-long at 18°C and a pull of 50 N and the measured length was 459.242 m. Temperature during the measurement was 28°C and the pull applied was 100 N. The tape was uniformly supported during the measurement. Compute the true length of line if the cross sectional of the tape was 0.02cm^2. Take coefficient of expansion of tape per degree Celsius = 0.0000117 and the modulus of elasticity is $21*10^6$ N/cm^2.	10 Marks	L2	CO2
		Or			
9.	a.	Explain the method of indirect ranging.	10 Marks	L2	CO2

10.	a.	True error is the difference between a measurement and its true value. Summarize the different types of error in surveying.	10 Marks	L2	CO1
		Or			
11.	a.	Surveying is the science and technique of measuring and mapping the positions, distances, directions, and elevations of points on, above, or below the Earth's surface, using direct or indirect methods. Summarize the different types of surveying based on the object of survey.	10 Marks	L2	CO1

12.	a.	A closed traverse is conducted with 5 stations A, B, C, D, E taken in anticlockwise order in the form of a regular pentagon. If the fore bearing of AB is 30°, Calculate the bearings of the other sides.	10 Marks	L3	CO2
		Or			
13.	a.	Following are the observed bearings of the lines of a traverse ABCDEA with a compass at a place where local attraction was suspected.	10 Marks	L3	CO2

Line	Fore bearing	Back bearing
AB	191°45'	13°0'
BC	39°30'	222°30'
CD	22°15'	200°30'
DE	242°45'	62°45'
EA	330°15'	147°45'

Calculate the correct bearings of the lines.