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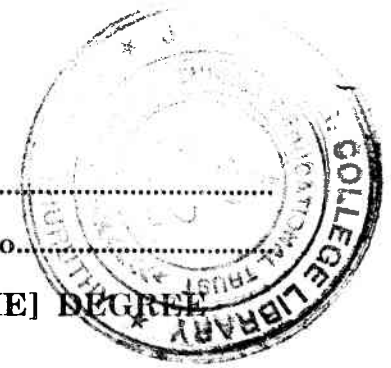
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Name.....

Reg. No.....

**THIRD SEMESTER B.TECH. (ENGINEERING) [14 SCHEME] DEGREE  
EXAMINATION, NOVEMBER 2015**

CE 14 305—SURVEYING I



Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer any eight questions out of ten.*

1. Explain about direct Ranging.
2. Explain about Whole circle and reduced bearing.
3. Explain about any *three* accessories used in plane table surveying with neat diagram.
4. Explain about the longitudinal and cross section levelling.
5. Explain about box Sextant.
6. Explain the reiteration method with neat diagram and tabulation.
7. Explain the characteristics of vertical curves
8. Explain the elements of a simple curve with neat diagram.
9. Explain the temporary adjustments done in leveling.
10. Explain the Characteristics of contours.

(8 × 5 = 40 marks)

**Part B**

*Answer all questions.*

11. A Survey Line ABC crosses a river. B and C are the points near and opposite banks of the river. Point D is selected such that D is at a perpendicular distance of 60 m from the survey line ABC. The bearings of C and B are 310 deg and 220 deg respectively from D. Chainage of B is 30 m Find the width of the river.

*Or*

12. The bearings of the sides of a traverse ABCDE are as follows :

Side		Fore bearing	Back bearing
AB	...	107°'	287°15'
BC	...	22° 30'	202° 0'
CD	...	281°30'	101°30'
DE	...	189° 0'	9° 15'
EA	...	124°15'	304°45'

Find the stations affected by local attraction and compute the corrected bearing.

Turn over

13. Explain the Bessel's Three Point Problem with neat diagram.

Or

14. A leveling work was carried out and following observation were taken. Find the RL of the points. Take RL of Last station as 142.435.

Sl No	BS	IS	FS	RL
1 ...	1.305			
2 ...	0.485		2.560	
3 ...	2.350		1.090	
4 ...		0.785		
5 ...	1.635		0.285	
6 ...	2.875		0.990	
7 ...	2.335		1.065	
8 ...			1.025	142.435(BM)

15. The values of offsets in metres of an irregular plot to the chain line are given below at 10m interval. Find the area between the chain line and the irregular boundary by Trapezoidal Rule and Simpson's rule.

Offsets(m)	...	3.6	5.3	6.3	6.2	5.4	6.8	7.4	6.4	8.0
Distance(m)	...	0	10	20	30	40	50	60	70	80

Or

16. Calculate the missing data of the closed loop traverse ABCD :

Line	Length (m)	W.C.B.
AB ...	550	60°
BC ...	1200	?
CD ...	880	?
DA ...	1050	310°

17. Calculate the necessary data required for setting out a simple Curve by perpendicular offset method for connecting straight lines having deflection angle 90 deg with the radius of 250m. Available chain length is 20m.

Or

18. Explain the Procedure for setting out of a Transition Curve given that the portion of simple curve should be set out by Double Theodolite method, with formula and detailed diagram.

(4 × 15 = 60 Marks)