

BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY Question Bank (K-Scheme)

Name of subject: Surveying Unit Test: II Subject code: 312339 Course: CE Semester: II

CHAPTER 3 (Theodolite Surveying)

2 Marks

- a. Define telescope inverted & telescope normal.
- b. Define swinging and transiting in theodolite surveying.
- c. Define face left and face right observations.
- d. Write note on Latitude and Departure.

(4 Marks)

- a). Explain method of repetition of horizontal angle measurement.
- b). A traverse survey was conducted and following data is received, find missing length and bearing of line DA.

Line	Length (m)	Bearing
AB	155.80	78° 30'
BC	175.00	155° 35'
CD	238.50	248° 42'
DA	?	?

- c) Explain the function of lower tangent screw, upper tangent screw, lower clamping screw & upper clamping screw while measuring horizontal angle using theodolite.
- d) Explain temporary adjustment of theodolite.
- e. Find the length & bearing of line AB. If two co-ordinates A & B as below.

Point	Co-ordinates
A	970.50, 850.40
B	1200.40, 602.20

- f. Following are the latitudes & departures for closed traverse ABCDE. Compute the missing length & WCB of side EA

Line	AB	BC	CD	DE	EA
Length	194.1	201.20	164.40	172.6	?
WCB	85°30'	15°30'	285°30'	195°30'	?

- g. Calculate the corrected line consecutive coordinate for the following observations. Apply Bowditch rule.

Line	Length (m)	Consecutive Co-ordinate			
		N	S	E	W
AB	250	107.00		3.55	
BC	125	15		250.00	
CD	260		125.00	4.10	
DA	110	0			255.00

CHAPTER 4 (Levelling and Contouring)

2 Marks

- Define bench mark
- State the different types of bench mark
- define- back sight reading , fore sight reading and intermediate sight reading
- Define the terms: 1) contour 2) contour interval 3) horizontal equivalent
- State the methods of locating contour
- State any four characteristics of contour.

4 Marks

- Draw a neat sketch of dumpy level and explain the temporary adjustment of dumpy level.
- State the types of levelling and explain any one of them with neat sketch .
- Differentiate between H.I . Method and Rise and Fall method.
- explain the errors in levelling.

e. The readings were taken at a common interval of 15 metres. The first reading was at a chainage of 165 m where reduced level is 98.085. The instrument was shifted after fourth and sixth reading. The readings were; 3.150, 2.245, 1.125, 2.760, 1.835, 1.470, 1.965, 1.225, 2.390 and 3.035 m. Solve by any method.

f) The consecutive readings were taken with a dumpy level: 3.875, 3.630, 2.865, 1.945, 0.920, 3.165, 2.86, 1.895, 2.125, 0.965 and 0.785. The level was shifted after fifth and eighth readings. The first reading was taken on benchmark of R.L. 260.865m. Calculate R.L. of all points with usual checks.

g) What are the methods of interpolating of contours? Explain any one method in short.

h) What are the methods of contouring? Explain indirect method using cross section method with neat sketch.

CHAPTER 5 (Plane Table Surveying)

(2 Marks)

a.. State the situations where plane table survey is suitable.

b State the purpose of alidade and 'U' fork in plane table surveying.

c. State the principal of Plane table surveying.

(4 Marks)

a. State accessories required for plane table survey along with their use.

b. Define orientation of plane table and explain backsighting method of orientation with sketch.

c. Explain with sketch Intersection method of plane table surveying.

d. State any 4 advantages & 4 disadvantages of plane table survey.