

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

Name of subject: Basic Surveying

Subject code: 22205

Semester: II

Unit Test :II

Course : CE

CHAPTER 3(Chain and Compass Traverse Survey)

2 Marks

- a. State any two causes of local attraction .
- b. List the types of Meridian .
- c. Define Magnetic Declination .
- d. Define base line and check line

4 Marks

- a) what do mean by compass traversing ? what are the types of traversing ?
- b) How the magnetic bearings will be designated ? OR Explain the ‘**Whole Circle Bearing**’ AND ‘**Reduced Bearing**’ system with neat sketch.
- c) what do mean by Fore Bearing and Back bearing of line ? Explain with neat sketches and give relation between them .
- d) Convert the following Bearings :
 - a. $65^{\circ}45'$
 - b. $143^{\circ}30'$
 - c. $222^{\circ}45'$
 - d. $N45^{\circ} 15' E$
 - e. $320^{\circ}45'$
 - f. $S70^{\circ} 45' E$
 - g. $320^{\circ}45'$
 - h. $N 40^{\circ} 15' W$

e) How the closing error can be adjusted from traverse ?explain with diagram.

f) The bearing of closed traverse ABCDEA Are as follows :

side	Fore bearing	Back bearing
AB	107 °15'	287° 15'
BC	220°	202° 00'
CD	281° 30'	101 °30'
DE	181 °15'	1° 15'
EA	124 °45'	3045'

Compute the interior angles of traverse and do the necessary checks.

g) The following fore and Back bearing were observed in the traversing with a compass.

side	Fore bearing	Back bearing
AB	65 °30'	245° 30'
BC	104°15'	283° 00'
CD	43° 45'	226 °30'
DE	326 °15'	144°45'

Determine the stations which are free from local attraction and do necessary corrections.

h) what are the sources of error in compass traversing ?

CHAPTER 4 (Levelling)

2 Marks

- define bench mark
- state the different types of bench mark
- define- back sight reading , fore sight reading and intermediate sight reading

4 Marks

- a) Draw a neat sketch of dumpy level and explain the temporary adjustment of dumpy level.
- b. State the types of levelling and explain any four of them with neat sketch
- c..Differentiate between **H.I . Method and Rise and Fall method**.
- d. Explain fundamental axis of Dumpy level .
- e. explain the errors in levelling.
- f. 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 reading was ; 3.150, 2.245, 1.125, 2.760, 1.835, 1.470, 1.965, 1.225, 2.390 and 3.035 m .

Solve the above by ;

1) **H.I Method (collimation method)**

2) **rise and fall method**

CHAPTER 5 and 6 (Contouring and Measurement of Area and Volume)

2 Marks

- a. Define the terms: 1) contour 2) contour interval 3) horizontal equivalent
- b. state the methods of locating contour
- c) state any four characteristics of contour.
- d) state the uses of digital planimeter
- e) list the components of digital planimeter
- f) state the advantages of of digital planimeter

4Marks

- a. What are the methods of interpolating of contours ? Explain any one method in short.
- b. What are the methods of contouring? Explain indirect method using cross section method with neat sketch

c. With a neat sketch explain the components of digital planimeter and uses of it.

d. How the volume of the Reservoir from contour map is calculated

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