

No. of Printed Pages : 4  
Roll No. ....

180733/170733/  
120733/030733

**3rd Sem. / Civil, Brick Tech,  
Tech, Const Mgmt., Highway Engg.  
Subject : Surveying - I**

Time : 3 Hrs.

M.M. : 100

**SECTION-A**

**Note:** Multiple choice Questions. All questions are compulsory (10x1=10)

- Q.1 A building is an obstacle to  
a) Chaining but not ranging  
b) Ranging but not chaining  
c) Neither chaining nor ranging  
d) Both chaining and ranging
- Q.2 Maximum tolerance of a 20m chain is  
a)  $\pm 2\text{mm}$  b)  $\pm 3\text{mm}$   
c)  $\pm 4\text{mm}$  d)  $\pm 5\text{mm}$
- Q.3 For a line AB  
a) The fore bearing of AB and back bearing of BA differ by  $18^\circ$   
b) The fore bearing of AB and back bearing of BA differ by  $18^\circ$   
c) Both (a) and (b) are correct  
d) None of the above
- Q.4 The horizontal angle between the true meridian and magnetic meridian at a place is called:  
a) Declination b) Azimuth  
c) Local attraction d) Magnetic bearing

(1)

180733/170733/  
120733/030733

- Q.5 Which of the following is an obstacle to chaining but not to ranging  
a) Building b) River  
c) Hillock d) None of these
- Q.6 Planimeter is used for measuring.  
a) Volume b) Area  
c) Slope angle d) Contour gradient
- Q.7 Plotting of inaccessible point on a plane table, is done by  
a) Intersection b) Traversing  
c) Radiation d) None of the above
- Q.8 Which of the following instrument is used to setup right angles?  
a) Cross staff b) Site square  
c) Optical staff d) Prism square
- Q.9 Which is the method of plane tabling?  
a) Ranging b) Traversing  
c) Both A & B d) None of the above
- Q.10 Instrument used for sighting the objects and drawing the rays in plane table surveying  
a) Alidade b) Through compass  
c) U- for K d) None of the above

**SECTION-B**

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Geodetic survey of India was done using \_\_\_\_\_ triangulation system.
- Q.12 In surveying when work is done from part to whole, the smaller errors are \_\_\_\_\_
- Q.13 Length of an Engineer chain is \_\_\_\_\_.

(2)

180733/170733/  
120733/030733

- Q.14 Quadrantal bearings are measured with \_\_\_\_\_ compass.
- Q.15 Reduced bearing of a Line whose WCB is  $312^\circ$  is \_\_\_\_\_.
- Q.16 The datum adopted for India is mean sea level at \_\_\_\_\_.
- Q.17 The fiducial edge of alidade should be \_\_\_\_\_.
- Q.18 Line ranger is used for \_\_\_\_\_.
- Q.19 The plane table surveying's suitable for \_\_\_\_\_ scale mapping.
- Q.20 \_\_\_\_\_ line is the line drawn through points of the same declination.

### SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions.

(12x5=60)

- Q.21 What are the principles of Surveying? Explain.
- Q.22 Give the classification of Surveying on the basis of instrument used.
- Q.23 What are the obstacles in chain surveying? Explain
- Q.24 What are the different kinds of chains used in surveying?
- Q.25 Differentiate between chain survey and compass survey.
- Q.26 What is local attraction? How is it detected and eliminated?
- Q.27 Describe temporary adjustment of prismatic compass.
- Q.28 Define leveling, What is the principle of leveling? Explain.
- Q.29 What is bench mark? Give their classification.

(3)

180733/170733/  
120733/030733

- Q.30 Describe the two peg method of permanent adjustment of a dumpy level.
- Q.31 Name the various accessories of the plane table. What are their functions? Explain in brief.
- Q.32 What are the various method of plane table? Explain any two in details.
- Q.33 Write any five advantages of plane table surveying.
- Q.34 Write the purpose of leveling.
- Q.35 Write a short note on check leveling'.

### SECTION-D

**Note:** Long answer type questions. Attempt any two out of three questions. (2x10=20)

- Q.36 The following bearings were observed in running a close traverse. Which stations are affected by local attraction?

Determine the correct bearings.

Line	F.B.	B.B.
AB	$78^\circ 15'$	$257^\circ 30'$
BC	$118^\circ 30'$	$299^\circ 30'$
CD	$168^\circ 30'$	$348^\circ 30'$
DA	$227^\circ 45'$	$47^\circ 15'$

- Q.37 The following staff readings were observed successively with a level, the instrument have been moved after 3, 6, and 8 reading: 2.228, 1.606, 0.988, 2.090, 2.864, 1.262, 0.602, 1.982, 1.044, 2.684 fill the above readings in a page of level book and calculate the RL of points using height of instrument method, if the first reading was taken with a staff held on a bench mark of 432.384m.
- Q.38 Explain in detail about "Two point problem" and How it is performed?

(2500)

(4)

180733/170733/  
120733/030733