

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 The following bearings were observed while traversing with a compass:

Line	FB	BB
AB	80°45'	260°00'
BC	130°30'	311°35'
CD	240°15'	60°15'
DA	290°30'	110°10'

Mention which stations were affected by local attraction and determine the corrected bearings.

Q.24 The following staff readings were observed successively with a level, the instrument having been moved after 4th, 7th and 10th reading: 2.650, 3.745, 3.835, 2.270, 2.645, 0.380, 0.965, 1.645, 2.845, 3.840, 2.685 and 3.260 meters. Enter the above readings in a page of level book and calculate the RL of points using rise and fall method, if the first reading was taken with a staff held on a bench mark of 105.055 m.

Q.25 Explain the traversing method of plane table surveying with the help of diagram.

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3rd Sem / Civil

Subject : Surveying - I

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 Which of the following scale is largest one?
a) 1 cm = 50 m b) R.F. = 1/30000
c) 1 : 42000 d) 1 cm = 50 km
- Q.2 A metallic tape is made of _____
a) Steel b) Invar
c) Linen d) Cloth and Wires
- Q.3 Local attraction in compass surveying may exist due to _____ (CO3)
a) Presence of magnetic substance near the instrument
b) Loss of magnetism of the needle
c) Incorrect leveling of the magnetic needle
d) Friction of needle at the pivot
- Q.4 The rise and fall method of leveling provides a complete check on _____

- a) Back sight b) Intermediate sight
- c) Fore Sight d) All of the above

Q.5 Vertical distance between any two consecutive contours is known as _____

- a) Contour interval
- b) Contour gradient
- c) Horizontal equivalent
- d) None of the above

Q.6 A series of closed lines on map represents a depression if

- a) Lower values are inside
- b) Lower values are outside
- c) Higher values are inside
- d) None of the above

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 For a well conditioned triangle, no angle should be less than _____ ($20^\circ/30^\circ$)

Q.8 An invar tape is made of an alloy of _____ (Nickel & Brass / Nickel & Steel)

Q.9 The size of plane table is _____ (600 mm x 750 mm / 300 mm x 450 mm)

Q.10 Define the term Line of Collimation.

Q.11 Define the term magnetic declination.

Q.12 Define the term horizontal equivalent.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Name the different classifications of surveying based on Instruments used and describe any one of them.

Q.14 Write the various purposes of compass surveying.

Q.15 Convert the following QB to WCB:

- a) $N21^\circ15'E$
- b) $S75^\circ30'E$
- c) $S73^\circ05'W$
- d) $N30^\circ45'W$

Q.16 Write a short note temporary adjustment of auto level.

Q.17 Enlist the instrumental errors in levelling and describe any one of them.

Q.18 Describe the procedure of orientation of plane table by back sight.

Q.19 Write the various disadvantages of plane table surveying.

Q.20 Describe the various factors affecting the contour intervals.

Q.21 Write any four characteristics of contours.

Q.22 Describe the use of contours for the marking of alignment of a railway line.