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Roll No.

220733

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 For a well conditioned triangle, no angle should be less than _____

- a) 20°
- b) 45°
- c) 30°
- d) 60°

Q.2 An invar tape is made of an alloy of _____

- a) Brass and Nickel
- b) Brass and Steel
- c) Nickel and Steel
- d) Copper and Steel

Q.3 A negative declination shows that the magnetic meridian is to the _____ (CO3)

- a) Western side of the true meridian
- b) Southern side of the true meridian
- c) Eastern side of the true meridian
- d) None of these

Q.4 The following sights are taken on a “Turning Point”

- a) Backsight only
- b) Foresight only
- c) Foresight and Backsight
- d) Foresight and Intermediate sight

Q.5 Steep ground is represented by _____

- a) Widely separated contour line
- b) Closely packed contour line
- c) Parallel running contour line
- d) None of the above

Q.6 The horizontal distance between two consecutive contour line is _____

- a) Contour interval
- b) Contour length
- c) Contour distance
- d) Horizontal equivalent

SECTION-B

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

Q.7 Define the term linear measurement.

Q.8 Define the term magnetic dip.

Q.9 Define the term Bench mark.

Q.10 Define the term contour interval.

(1)

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(2)

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- Q.11 The instrument used for accurate centering in plane table survey is _____ (U-fork / Alidade)
- Q.12 A metallic tape is made of _____ (Cloth & Wire / Linen)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. $(8 \times 4 = 32)$

- Q.13 Describe the principles of surveying.
- Q.14 Convert the following WCB to QB:
- a) $142^{\circ}15'$
 - b) $223^{\circ}45'$
 - c) $63^{\circ}10'$
 - d) $285^{\circ}30'$
- Q.15 Write the various uses of prismatic compass.
- Q.16 Enlist the natural errors in levelling and describe any one of them.
- Q.17 Describe the process of temporary adjustment of an Auto Level.
- Q.18 Write the various advantages of plane table surveying.
- Q.19 Describe the procedure of orientation of plane table by trough compass.
- Q.20 Describe the various characteristics of contours.
- Q.21 Write a short note on “Interpolation of contour”.
- Q.22 Describe the use of contours for the marking of alignment of a national highway.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. $(2 \times 8 = 16)$

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

Line	FB	BB
AB	$74^{\circ}15'$	$256^{\circ}00'$
BC	$107^{\circ}15'$	$286^{\circ}15'$
CD	$224^{\circ}45'$	$44^{\circ}45'$
DA	$307^{\circ}45'$	$127^{\circ}00'$

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 3rd, 6th and 8th reading: 2.230, 1.605, 0.990, 2.090, 2.865, 1.265, 0.600, 1.980, 1.045, 2.685 meters. Enter the above readings in a page of a 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 432.385 m.
- Q.25 Explain the radiation method of plane table surveying with the help of diagram.