

SECTION-D

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

Q.23 A simple circular curve has a radius of 800m. The two tangents intersect at an angle of 120°. The chainage of point of intersection 1000 m. Find.

- i) Tangent Length
- ii) Length of curve.
- iii) Chainage of beginning of curve.
- iv) Chainage of point of end of curve.
- v) Length of long chord
- vi) Degree of curve

Q.24 Two distances of 85,160 metres were accurately measured out and intercept on staff held vertical on these points were 0.845 m and 1.595 m respectively. Calculate the Tacheometric constant. Find the distance when that staff intercept is 2.535m.

- Q.25 a) Write a short note on remote sensing. Also give its five application in civil engineering.
- b) What are vertical curves. Explain its types briefly.

No. of Printed Pages : 4

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Roll No.

4th Semester/ Civil Subject: Surveying-II

Time : 3 Hrs.

M.M. : 60

SECTION-A

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

Q.1 The stadia method in tacheometry is used to determine.

- a) Horizontal angles
- b) Vertical angles
- c) Horizontal and vertical angles
- d) Horizontal and vertical distances

Q.2 Which of the following is not a type of horizontal curve?

- a) Simple circular
- b) Reverse
- c) Summit
- d) Compound

Q.3 The angle by which the alignment changes direction on a horizontal curve is called:

- a) Deflection angle
- b) Angle of intersection
- c) Angle of tangency
- d) Central angle

- Q.4 EDM instruments are classified based on :
- a) Wave Length b) Carrier wave
c) Frequency d) Time period
- Q.5 GIS stands for :
- a) Global information system
b) Geographic Information system
c) Geo-referenced Imaging system
d) Geographic Interpretation System
- Q.6 A Planimeter is primarily used to measure
- a) Volume b) Slope
c) Area d) Distance

SECTION-B

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

- Q.7 GPS positioning uses_____.
- Q.8 In DGPS, errors due to atmospheric delays like the ionospheric and tropospheric effects are largely eliminated by differential correction. (True/False)
- Q.9 In a simple circular horizontal curve, the _____ angle is the angle between the back tangent and the forward tangent.
- Q.10 The length of a simple curve (L) is related to its radius (R) and central angle (Δ) by the relation
 $L = R \times \Delta$
 $L = R \times \Delta$ (When Δ is in _____).

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- Q.11 The staff must always be held at a fixed inclination for tachymetric measurements. (True/False)
- Q.12 In stadia tacheometry, the distance formula is
 $D = k.s + C$
 $D = K.s + C$, Where K is the _____ constant.

SECTION-C

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

- Q.13 What are the uses of tacheometric surveying in civil engineering?
- Q.14 What are the advantages of using an electronic digital theodolite over a conventional one?
- Q.15 Enlist any four elements of simple circular curve with diagram.
- Q.16 Write a short note on drones survey.
- Q.17 What is the principle of EDM. (Give three uses of EDM)
- Q.18 What are the temporary adjustments of Total Station.
- Q.19 How does DGPS work. Also give its two errors.
- Q.20 Write a short note on various parts of Total station.
- Q.21 Enlist any five comparison between DGPS and Total Station.
- Q.22 Explain how prolonging of a line is done.

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