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**4th Sem / 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 face left position is also called  
a) Telescope normal b) Telescope reversed  
c) Telescope inverted d) Clamp screw
- Q.2 In a closed traverse the algebraic sum of departure and latitude must be equal to  
a)  $180^\circ$  b)  $90^\circ$   
c) Zero d)  $40^\circ$
- Q.3 The first tangent point is also known as  
a) Point of tangency b) Point to start  
c) Point of curve d) Apex
- Q.4 The vertical curve is considered as  
a) Circular Curve b) Elliptical Curve  
c) Parabolic Curve d) End Point

- Q.5 The electronic total station is a combination of  
a) Tachometric theodolite and EDMI  
b) Vernier theodolite and EDMI  
c) Digital theodolite and EDMI  
d) None of the above
- Q.6 The diaphragm of a stadia theodolite is fitted with two additional  
a) Horizontal hairs  
b) vertical hairs  
c) Horizontal and two vertical hairs  
d) none of these

**SECTION-B**

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

- Q.7 What is GPS?
- Q.8 The line of collimation should be perpendicular to \_\_\_\_\_ axis.
- Q.9 The horizontal axis of Altitude level must be \_\_\_\_\_ to the line of collimation.
- Q.10 The usual value of \_\_\_\_\_ constant is 100 in tacheometry.

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Q.11 A theodolite without stadia hair can be used in \_\_\_\_\_

Q.12 Direct vernier is based on \_\_\_\_\_ principle.

### SECTION-C

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

Q.13 Define the following

- a) Horizontal axis
- b) Centring

Q.14 What is Super-Elevation? and define purpose of super elevation?

Q.15 Write short note on DGPS?

Q.16 Discuss the methods of tacheometry?

Q.17 Define Super -Elevation?

Q.18 Calculate the Length of transition curve to attain a maximum super elevation of 12 cm assuming a rate of super elevation of 3cm/sec. The speed of vehicle is 60km/hour.

Q.19 What is meant by Transition curve?

Q.20 What are basic functions of GPS?

Q.21 How is the closing error in traverse is balanced.

Q.22 Define remote sensing.

### SECTION-D

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

Q.23 Two distances of 85,160 metres were accurately measured out and intercemonstaff held vertical on these points were 0.845 m and 1.595 m respectively . Calculate the Tacheometric constant. Find the distance when the staff intercept is 2.535 m.

Q.24 Explain the procedure with sketch for setting out curve by the method of offsets from the chord produced.

Q.25 How will you find the height of a object by theodolite when its base is accessible?