



4. TACHEOMETRIC, CRUVE, HYDROGRAPHIC SURVEYING AND PHOTOGRAMMETRY

1. Refraction error is the least in case of
- (a) Stadia tacheometry
 - (b) Tangential tacheometry
 - (c) Subtense bar tacheometry
 - (d) Omnimeters

Ans.

2. The subtense tacheometry method is adopted when the ground is
- (a) Flat
 - (b) Inclined
 - (c) Undulating
 - (d) A waterbody

Ans.

3. Error due to inclination of line of collimation in levelling across a river can be eliminated by
- (a) Reversion
 - (b) Reciprocal ranging
 - (c) Reciprocal levelling
 - (d) Keeping level in middle

Ans.

4. For better accuracy in measuring and plotting the sides of a triangle by triangulation, the angles of the triangle
- (a) should not be more than 30°
 - (b) should not be less than 30° or more than 120°
 - (c) are not restricted in magnitude
 - (d) should not be less than 120°

Ans.

5. The relationship between the air-base B, photographic base b, flying height H and focal

length f of lens in a vertical photograph is given by

- (a) $B = bH/f$
- (b) $B = f/bH$
- (c) $B = b/fH$
- (d) $B = \frac{b}{H-f}$

Ans.

6. For air borne application and materialization of GPS receiver and easy construction, which is the most frequently used antenna?

- (a) Microstrip
- (b) Micropole
- (c) Spiral helix
- (d) Choke ring

Ans.

7. 'Iso-centre' is the point

- (a) in which the tilted axis of the camera meets the vertical photograph
- (b) in which the bisector of the angle of tilt meets the vertical photograph
- (c) in air space, the location of the optical correct centre of the lens of the camera at the time of exposure
- (d) where the perpendicular from the nodal point meets the photograph

Ans.

8. The obserratiory made over the same area on different dates to monitor ground features like crop growth is called

- (a) Temporal resolution
- (b) Radiometric resolution
- (c) Spatial resolution
- (d) Spectral resolution

Ans.





- (a) Bridge carrying railway below road.
- (b) Bridge carrying road below railway.
- (c) Bridge carrying road and railway at the same level.
- (d) A level crossing.

Ans.

19 Cross hairs in surveying telescopes, are fitted :

- (a) in the objective lens
- (b) at the center of the telescope
- (c) at the optical centre of the eye piece
- (d) in front of the eyepiece

Ans.

20. Which of the following shapes is preferred in valley curve-

- (a) Cubic paraola
- (b) Spiral
- (c) Leniscate
- (d) Simple parabola

Ans.

21. Perpendicular offset from the junction of transition curve and circular curve to the tangent is equal to-

- (a) shift
- (b) two times the shift
- (c) three times the shifts
- (d) four times the shift

Ans.

22. If R is the radius of a main curve and L is the length of the transition curve, the shift of the curve is-

- (a) $L/24 R$
- (b) $L^2/24R$
- (c) $L^3/24R$
- (d) None of these

Ans.

23. What is defined as the apex of the angle formed by the termination of the inclined surface at the top of a slope-

- (a) Valley
- (b) Ridge

- (c) Eaves
- (d) Pitch of the roof

Ans.

24. An ideal vertical curve to join two gradients is-

- (a) Circular
- (b) Parabolic
- (c) Elliptical
- (d) Hyperbolic

Ans.

25. In reciprocal levelling, the error which is not completely eliminated, is due to-

- (a) Non-adjustment of line of collimation
- (b) Refraction
- (c) Earth's curvature
- (d) Non-adjustment of the bubble tube

Ans.

Setting of Lamniscate transition curve is down with-

- (a) Perpendicular offsets
- (b) Radial offsets
- (c) Deflection offsets
- (d) Polar deflection angle

Ans.

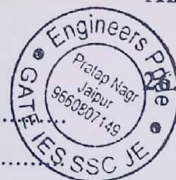
27. Length of long chord in a simple circular curve having central angle θ is-

- (a) $R \sin \frac{\theta}{2}$
- (b) $2R \sin \frac{\theta}{2}$
- (c) $R \cos \frac{\theta}{2}$
- (d) $2R \cos \frac{\theta}{2}$

Ans.

28. The radial offset at a distance x from the beginning of circular curve of a radius R is given by-

- (a) $\sqrt{R^2 - x^2} - R$
- (b) $R - \sqrt{R^2 - x^2}$
- (c) $R - \sqrt{R^2 + x^2}$
- (d) $\sqrt{R^2 + x^2} - R$



Ans.

29. A curve having varying radius and introduced in between a straight and a circular curve is known as-

- (a) Compound curve (b) Transition curve
- (c) Vertical curve (d) Summit curve

Ans.

30. The length of the tangent of a curve whose radius is R and the angle of deflection Δ is-

- (a) $R \tan \frac{\Delta}{2}$ (b) $2R \tan \frac{\Delta}{2}$
- (c) $2R \sin \frac{\Delta}{2}$ (d) $R \sin \frac{\Delta}{2}$

Ans.

31. The correction in elevations due to the curvature and refraction is proportional to-

- (a) D/R (b) D²/R

(c) R/D²

Ans.

32. Which of the following eliminated by reciprocal measurements in differential leveling-

- I. Error due to Earth's curvature.
- II. Error due to atmospheric refraction.

- (a) Both I and II (b) I only
- (c) II Only (d) Neither I nor II

Ans.

33. With regards to radius of curvature of an ideal transition curve, which of the following statements is correct-

- (a) It is inversely proportional to the main circular curve
- (b) It is constant throughout the length of the curve
- (c) It is inversely proportional to its distance from point of tangency
- (d) It is directly proportional to the longitudinal section of the curve portion

Ans.

Answer Sheet

1. (c)	2. (c)	3. (c)	4. (b)	5. (a)	6. (a)	7. (b)	8. (a)	9. (a)	10. (b)
11. (a)	12. (a)	13. (d)	14. (a)	15. (a)	16. (b)	17. (a)	18. (b)	19. (d)	20. (a)
21. (d)	22. (b)	23. (b)	24. (b)	25. (b)	26. (d)	27. (b)	28. (d)	29. (b)	30. (a)
31. (b)	32. (a)	33. (b)							

33-a

