



Work sheet(Unit wise Objective)

UNIT – IV: Curves and Tacheometric Surveying

Part – A: Multiple Choice Questions (20 MCQs)

1. Curves are provided in roads and railways to
 - A) Increase speed
 - B) Change the direction of alignment smoothly
 - C) Reduce construction cost
 - D) Increase road width**Answer: B**
2. The simplest type of horizontal curve is
 - A) Compound Curve
 - B) Reverse Curve
 - C) Simple Circular Curve
 - D) Transition Curve**Answer: C**
3. A simple curve consists of
 - A) Two arcs of different radii
 - B) One circular arc of constant radius
 - C) Three circular arcs
 - D) Two straight lines only**Answer: B**
4. A compound curve consists of
 - A) Two or more arcs of different radii
 - B) One straight line
 - C) One circular arc
 - D) Two parallel lines**Answer: A**
5. A reverse curve consists of
 - A) Two arcs bending in opposite directions
 - B) Two arcs of the same radius in the same direction
 - C) One straight line
 - D) Three arcs**Answer: A**
6. A transition curve is mainly provided to
 - A) Increase the road width
 - B) Provide a gradual change from straight to circular curve
 - C) Reduce road length
 - D) Measure distances**Answer: B**
7. Vertical curves are provided to connect
 - A) Two horizontal curves
 - B) Two different gradients
 - C) Two contour lines
 - D) Two survey stations**Answer: B**
8. The point where two tangents meet is called
 - A) PT
 - B) PC
 - C) Point of Intersection (PI)
 - D) BM**Answer: C**

9. The distance from the Point of Intersection to the beginning of the curve is called
- A) Tangent Length
 - B) Long Chord
 - C) Mid-ordinate
 - D) External Distance

Answer: A

10. The straight line joining the beginning and end of a curve is called the
- A) Radius
 - B) Long Chord
 - C) Tangent
 - D) Offset

Answer: B

11. Tacheometry is mainly used for measuring
- A) Angles only
 - B) Distances and elevations
 - C) Areas only
 - D) Volumes only

Answer: B

12. Tacheometry is based on the principle of
- A) Triangulation
 - B) Stadia
 - C) Levelling
 - D) GPS

Answer: B

13. The instrument used in tacheometric surveying is a
- A) Compass
 - B) Theodolite
 - C) Tacheometer
 - D) Level

Answer: C

14. The stadia method uses
- A) Three hairs in the telescope
 - B) One crosshair only
 - C) Chain measurements
 - D) Compass bearings

Answer: A

15. In the tangential method, distances are determined using
- A) Vertical angles
 - B) Horizontal angles
 - C) Two vertical angles
 - D) Bearings only

Answer: C

16. Tacheometry is most suitable for
- A) Flat open ground only
 - B) Rough and hilly terrain
 - C) Indoor surveys
 - D) Building construction only

Answer: B

17. Which method is faster than chain surveying?
- A) Levelling
 - B) Tacheometry
 - C) Plane Table Survey
 - D) Compass Survey

Answer: B

18. The radius of a simple circular curve remains
- A) Variable
 - B) Constant
 - C) Zero
 - D) Infinite

Answer: B

19. A summit curve is an example of a

- A) Horizontal Curve
- B) Vertical Curve
- C) Reverse Curve
- D) Compound Curve

Answer: B

20. Transition curves improve

- A) Driver comfort and safety
- B) Map scale
- C) Bearing accuracy
- D) Staff readings

Answer: A

Part – B: Fill in the Blanks (Answers Beside the Questions)

1. Curves are provided to change the _____ (**Direction**) of a road or railway smoothly.
2. The simplest horizontal curve is the _____ (**Simple Circular Curve**).
3. A compound curve consists of _____ (**Two or More Arcs**) of different radii.
4. A reverse curve bends in _____ (**Opposite**) directions.
5. A transition curve provides a _____ (**Gradual**) change in curvature.
6. Vertical curves connect two _____ (**Gradients**).
7. The point where two tangents intersect is called the _____ (**Point of Intersection**).
8. The straight line joining the ends of a curve is called the _____ (**Long Chord**).
9. The distance from PI to the beginning of the curve is the _____ (**Tangent Length**).
10. The radius of a simple circular curve is _____ (**Constant**).
11. Tacheometry is a method of _____ (**Rapid Surveying**).
12. The instrument used for tacheometric surveying is the _____ (**Tacheometer**).
13. The stadia method uses _____ (**Stadia Hairs**) in the telescope.
14. The tangential method is based on measuring _____ (**Vertical Angles**).
15. Tacheometry eliminates the need for _____ (**Direct Chaining**).
16. Tacheometric surveying is especially useful in _____ (**Hilly**) terrain.
17. The stadia method is faster than _____ (**Chain Surveying**).
18. Vertical curves are commonly used in _____ (**Roads and Railways**).
19. Transition curves improve the _____ (**Safety**) of vehicles.
20. Tacheometry is used to determine both _____ (**Distance and Elevation**).