Department of Mechanical Engineering

GE8152 ENGINEERING GRAPHICS

Multiple Choice Questions

UNIT I Plane Curves and Freehand Sketching

1. Which of the following is incorrect about
Ellipse? a) Eccentricity is less than 1
b) Mathematical equation is $X^2/a^2 + Y^2/b^2 = 1$
c) If a plane is parallel to axis of cone cuts the cone then the section gives ellipse
d) The sum of the distances from two focuses and any point on the ellipse is constant

Answer: c

2. Which of the following constructions doesn't use elliptical curves?
a) Cooling towers
b) Dams c)
Bridges d)
Man-holes

Answer: a

3. The line which passes through the focus and perpendicular to the major axis is _____
a) Minor axis
b) Latus rectum
c) Directrix
d) Tangent

Answer: b

4. Which of the following is not belonged to ellipse?
a) Latus rectum
b) Directrix c)
Major axis d)
Asymptotes

Answer: d

5. Mathematically, what is the equation of
ellipse? a) $x^2/a^2 + y^2/b^2 = -1$
b) $x^2/a^2 - y^2/b^2 = 1$
c) $x^2/a^2 + y^2/b^2 = 1$
d) $x^2/a^2 - y^2/b^2 = 1$

Answer: c

6. In general method of drawing an ellipse, a vertical line called as ____ is drawn
first. a) Tangent
b) Normal

c) Major axis
d) Directrix

Answer: d

7. If eccentricity of ellipse is 3/7, how many divisions will the line joining the directrix and the focus have in general method?
a) 10
b) 7
c) 3
d) 5

Answer: a

8. In the general method of drawing an ellipse, after parting the line joining the directrix and the focus, a _____ is made.
a) Tangent
b) Vertex
c) Perpendicular bisector
d) Normal

Answer: b

9. An ellipse has ____ foci.
a) 1
b) 2
c) 3
d) 4

Answer: b

10. If information about the major and minor axes of ellipse is given then by how many methods can we draw the ellipse?
a) 2
b) 3
c) 4
d) 5

Answer: d

11. In arcs of circles method, the foci are constructed by drawing arcs with centre as one of the ends of the ____ axis and the radius equal to the half of the ____ axis.
a) Minor, major
b) Major, major
c) Minor, minor
d) Major, minor

Answer: a

12. If we know the major and minor axes of the ellipse, the first step of drawing the ellipse, we draw the axes ____ each other.
a) Parallel to
b) Perpendicular bisecting
c) Just touching
d) Coinciding

Answer: b

13. Loop of the thread method is the practical application of _____ method.
a) Oblong method
b) Trammel method
c) Arcs of circles method
d) Concentric method

Answer: c

14. Which of the following is incorrect about Parabola?
a) Eccentricity is less than 1
b) Mathematical equation is $x^2 = 4ay$
c) Length of latus rectum is 4a
d) The distance from the focus to a vertex is equal to the perpendicular distance from a vertex to the directrix

Answer: a

15. Which of the following constructions use parabolic
curves? a) Cooling towers
b) Water channels
c) Light reflectors
d) Man-holes

Answer: c

16. Which of the following is not belonged to
ellipse? a) Latus rectum
b) Directrix
c) Major axis
d) Axis

Answer: c

17. Which of the following is Hyperbola
equation? a) $y^2 + x^2/b^2 = 1$
b) $x^2 = 1ay$
c) $x^2/a^2 - y^2/b^2 = 1$
d) $X^2 + Y^2 = 1$

Answer: c

18. Which of the following constructions use hyperbolic curves?
a) Cooling towers
b) Dams c)
Bridges d)
Man-holes

Answer: a

19. The lines which touch the hyperbola at an infinite distance are _____
a) Axes
b) Tangents at vertex
c) Latus rectum

d) Asymptotes

Answer: d

20. Which of the following is the eccentricity for
hyperbola? a) 1
b) 3/2
c) 2/3
d) 1/2

Answer: b

21. _____ is a curve generated by a point fixed to a circle, within or outside its circumference,
as the circle rolls along a straight line.
a) Cycloid b)
Epicycloid c)
Epitrochoid
d) Trochoid

Answer: d

22. _____ is a curve generated by a point on the circumference of a circle, which rolls
without slipping along another circle outside it.
a) Trochoid b)
Epicycloid c)
Hypotrochoid
d) Involute

Answer: b

23. _____ is a curve generated by a point on the circumference of a circle which rolls
without slipping on a straight line.
a) Trochoid
b) Epicycloid
c) Cycloid d)
Evolute

Answer: c

24. The straight lines which are drawn from various points on the contour of an object to meet a plane are
called as _____
a) connecting
lines b) projectors
c) perpendicular
lines d) hidden lines.

Answer: b

25. When the projectors are parallel to each other and also perpendicular to the plane, the projection
is called _____
a) Perspective projection
b) Oblique projection c)
Isometric projection
d) Orthographic projection

Answer: d

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Multiple Choice Questions

UNIT II Projection of Points, Lines and Plane Surface

1. Two points are placed in 1st quadrant of projection planes such that the line joining the points is perpendicular to profile plane the side view and top view will be _____
a) single point, two points
b) two points, single point
c) single point, single point
d) two points, two points

Answer: a

2. A point is 5 units away from the vertical plane and 4 units away from profile plane and 3 units away from horizontal plane in 1st quadrant then the projections are drawn on paper the distance between the front view and top view of point is _____
a) 7 units
b) 8 units
c) 9 units
d) 5 units

Answer: b

3. A point is 8 units away from the vertical plane and 2 units away from profile plane and 4 units away from horizontal plane in 1st quadrant then the projections are drawn on paper the distance between the side view and front view of point is _____
a) 12 units
b) 6 units
c) 10 units
d) 8 units

Answer: c

4. A point is 2 units away from the vertical plane and 3 units away from profile plane and 7 units away from horizontal plane in 1st quadrant then the projections are drawn on paper the distance between the front view and side view of point is _____
a) 10
b) 5
c) 9
d) 7

Answer: b

5. A point is 20 units away from the vertical plane and 12 units away from profile plane and 9 units away from horizontal plane in 1st quadrant then the projections are drawn on paper the distance between the side view and front view of point is _____
a) 29 units
b) 21 units
c) 32 units

d) 11 units

Answer: c

6. A point is 2 units away from the vertical plane and 3 units away from profile plane and 7 units away from horizontal plane in 1st quadrant then the projections are drawn on paper the shortest distance from top view and side view of point is _____
a) 10.29
b) 5.14
c) 9
d) 7

Answer: c

7. A point is 20 units away from the vertical plane and 12 units away from profile plane and 9 units away from horizontal plane in 1st quadrant then the projections are drawn on paper the distance between the side view and top view of point is _____
a) 29 units
b) 21 units
c) 35.8 units
d) 17.9 units

Answer: c

8. A point is 15 units away from the vertical plane and 12 units away from profile plane and horizontal plane in 1st quadrant then the projections are drawn on paper the distance between the front view and top view of point is _____
a) 27
b) 15
c) 12
d) 24

Answer: a

9. A point is 12 units away from the vertical plane and profile plane 15 units away from horizontal plane in 1st quadrant then the projections are drawn on paper the distance between the front view and side view of point is _____
a) 27
b) 15
c) 12
d) 24

Answer: d

10. A point is 7 units away from the vertical plane and horizontal plane 9 units away from profile plane in 1st quadrant then the projections are drawn on paper the distance between the front view and top view of point is _____
a) 27
b) 15
c) 16
d) 14

Answer: d

11. If a line AB parallel to both the horizontal plane and vertical plane then the line AB is _____

a) parallel to profile plane
b) lies on profile plane
c) perpendicular to profile plane
d) inclined to profile plane

Answer: c

12. A line parallel to horizontal plane and at a distance of 10 units to it and both the end of line are 6 units away from the vertical plane. Which of the following statement is false?
a) The line parallel to vertical plane
b) The side view of line gives a point
c) The length of line in front view is 10 units
d) The length of line in top view is 6 units

Answer: d

13. A hexagon is placed parallel to vertical plane which of the following projection is true?
a) Front view-line, top view- hexagon
b) Front view- hexagon, top view-
line c) Front view –line, top view-line
d) Top view- hexagon, side view- line

Answer: b

14. A pentagon is placed parallel to horizontal plane which of the following projection is true?
a) Front view-line, top view- pentagon
b) Front view- pentagon, top view-
line c) Front view –line, top view-line
d) Top view- line, side view- line

Answer: a

15. A rectangle is placed parallel to profile plane which of the following projection is
true? a) Front view-line, top view- rectangle
b) Front view- rectangle, top view-
line c) Front view –line, top view-line
d) Top view- rectangle, side view- line

Answer: c

16. A circle is placed parallel to vertical plane which of the following projection is false?
a) Front view-circle, top view- line
b) Length in top view and side view will be same
c) Circle is perpendicular to horizontal plane
d) The traces of plane containing this circle intersect at xy reference line

Answer: d

17. The top view, front view and side view of a triangle parallel to vertical plane, circle parallel to profile plane and rectangle parallel to horizontal plane respectively are _____
a) line, circle, line
b) triangle, line, rectangle
c) triangle, line, line
d) line, line, line

Answer: d

18. A Square is placed perpendicular to vertical plane and inclined to horizontal which of the following is true?
a) Front view-line, top view- square
b) Front view- line, top view- rectangle
c) Front view –line, top view-line
d) Top view-line, side view- rectangle

Answer: b

19. A circle is placed perpendicular to vertical plane and inclined to horizontal which of the following is true?
a) Front view-line, top view- circle b)
Front view- circle, top view- circle c)
Front view –line, top view-line
d) Top view- ellipse, side view- ellipse

Answer: d

20. A triangle is placed perpendicular to horizontal plane and inclined to vertical which of the following is true?
a) Front view-line, top view- triangle
b) Front view- triangle, top view- line
c) Front view –line, top view-line
d) Top view-line, side view- line

Answer: b

21. A triangle is placed perpendicular to horizontal plane and inclined to vertical which of the following is true. H.T is horizontal trace and V.T is vertical trace?
a) H.T- inclined to xy, V.T- inclined to xy
b) H.T- inclined to xy, V.T- perpendicular to
xy c) H.T-inclined to xy, V.T- parallel to xy
d) H.T-parallel to xy, V.T- perpendicular to xy

Answer: b

22. A square is placed perpendicular to vertical plane and inclined to horizontal plane which of the following is true. H.T is horizontal trace and V.T is vertical trace?
a) H.T- inclined to xy, V.T- perpendicular to xy
b) H.T- inclined to xy, V.T- perpendicular to xy
c) H.T- perpendicular to xy, V.T- inclined to xy
d) H.T- parallel to xy, V.T- perpendicular to xy

Answer: b

23. If a plane is perpendicular to vertical and inclined to horizontal plane with 30 degrees then the vertical trace makes _____ degrees with xy reference.
a) 30 degrees
b) 60 degrees
c) 150 degrees
d) 90 degrees

Answer: a

24. If a plane is perpendicular to vertical and inclined to horizontal plane with 30 degrees then the horizontal trace makes _____ degrees with xy reference.
a) 30 degrees
b) 60 degrees
c) 150 degrees
d) 90 degrees

Answer: d

25. A pentagon is placed perpendicular to horizontal plane and inclined to profile plane which of the following is true.
a) Front view-line, top view- pentagon
b) Front view- pentagon, top view-
line c) Front view –line, top view-line
d) Top view-line, side view- line

Answer: b

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Multiple Choice Questions

UNIT III Projection of Solids

1. The minimum number of orthographic view required to represent a solid on flat surface is _____
a) 1
b) 2
c) 3
d) 4

Answer: b

2. If a right angled triangle is made to revolute about one of its perpendicular sides the solid formed is _____
a) cube
b) triangular prism
c) cone
d) cylinder

Answer: c

3. When a pyramid or a cone is cut by a plane parallel to its base, thus removing the top portion, the remaining portion is called _____
a) cylinder
b) frustum
c) prism
d) polyhedron

Answer: b

4. Straight lines drawn from the apex to the circumference of the base-circle are all equal and are called _____
a) edges
b) connecting lines
c) projectors
d) generators

Answer: d

5. The solid formed by 12 equal and regular pentagons as faces is called _____
a) plantonic solid
b) dodacahedron
c) Icosahedron d)
pyritohedron

Answer: b

6. If a solid is positioned that its axis is perpendicular to one of the reference plane. Which of the following is false?
a) Axis is parallel to other reference plane
b) Base is parallel to reference plane
c) Projection on that plane gives true shape of its base d) Base is perpendicular to horizontal plane

Answer: d

7. If a solid's axis is perpendicular to one of the reference planes then the projection of solid on to the same plane gives the true shape and size of its _____
a) lateral geometry
b) base
c) cross-section
d) surface

Answer: b

8. When the axis of solid is perpendicular to H.P, the _____view should be drawn first and ____ view then projected from it.
a) front , top
b) top, side
c) side, front
d) top, front

Answer: d

9. When the axis of solid is perpendicular to V.P, the _____view should be drawn first and ____ view then projected from it.
a) front , top
b) top, side
c) side, front
d) top, front

Answer: a

10. When the axis of solid is parallel to H.P &V.P, then _____view should be drawn first and ____ and _____view then projected from
it. a) front , top, side
b) top, side, front
c) side, front, top
d) top, front, side

Answer: c

11. The front view, side view and top view of a regular square pyramid standing on horizontal plane base on horizontal plane.
a) triangle, triangle and square
b) square, triangle and triangle
c) square, triangle and square
d) triangle, square and triangle

Answer: a

12. The front view, side view and top view of a cylinder standing on horizontal plane base on horizontal plane.

a) circle, rectangle and rectangle
b) rectangle, rectangle and circle
c) rectangle, circle and rectangle
d) circle, triangle and triangle

Answer: b

13. The side view, top view and front view of a regular hexagonal pyramid placed base parallel to profile plane.
a) Triangle, triangle and hexagon
b) hexagon, triangle and triangle
c) hexagon, triangle and hexagon
d) triangle, hexagon and triangle

Answer: b

14. The side view, top view and front view of a regular cone placed base parallel to profile plane. a) Triangle, triangle and circle
b) circle, triangle and triangle
c) rectangle, triangle and circle
d) triangle, circle and triangle

Answer: b

15. The side view, top view and front view of a regular pentagonal prism placed axis perpendicular to vertical plane.
a) rectangle, rectangle and pentagon
b) pentagon, rectangle and rectangle
c) pentagon, rectangle and pentagon
d) rectangle, pentagon and rectangle

Answer: a

16. When a solid is placed such that axis is inclined with the V.P and parallel to the H.P. Its projections are drawn in _____ stages.
a) 1
b) 4
c) 2
d) 3

Answer: c

17. A regular cone first placed in such a way its axis is perpendicular to V.P and next this is tilted such that its base is making some acute angle with V.P. The top view for previous and later one will be.
a) Triangle, triangle
b) irregular shape of circle and triangle, triangle
c) triangle, irregular shape of circle and triangle
d) circle, triangle

Answer: a

18. A regular pentagon prism first placed in such a way its axis is perpendicular to V.P and one edge is parallel to H.P and next this is tilted such that its axis is making some acute angle with V.P. The front view for previous and later one will be _____
a) pentagon, pentagon

b) rectangle, pentagon
c) pentagon, irregular hexagon
d) irregular hexagon, pentagon

Answer: c

19. A cylinder first placed in such a way its axis is perpendicular to V.P and next this is tilted such that its axis is making some acute angle with V.P. The front view for previous and later one will be

_____
a) circle, rectangle with circular
ends b) rectangle, rectangle
c) rectangle with circular ends,
rectangle d) circle, rectangle

Answer: a

20. A cylinder first placed in such a way its axis is perpendicular to V.P and next this is tilted such that its axis is making some acute angle with V.P. The top view for previous and later one will be _____
a) circle, rectangle with circular
ends b) rectangle, rectangle
c) rectangle with circular ends,
rectangle d) circle, rectangle

Answer: b

21. A triangular pyramid is placed such that its axis is perpendicular to V.P and one of its base's edges is parallel to H.P the front view and top view will be _____
a) Triangle of base, triangle due to slanting side
b) Triangle due to slanting side, triangle of base
c) Triangle of base, rhombus
d) Rhombus, triangle of base

Answer: a

22. A square pyramid is placed such that its axis is inclined to V.P and one of its base's edges is parallel to H.P the front view and top view will be _____
a) Square, Isosceles triangle
b) Irregular pentagon, square
c) Irregular pentagon, isosceles triangle
d) Pentagon, equilateral triangle

Answer: c

23. A regular cone having its axis parallel to H.P and perpendicular to V.P at first but then the cone's axis keeping parallel to H.P and rotated such that its new axis is perpendicular to the previous axis. The front view of the previous and later one is _____
a) Circle, triangle
b) Circle, triangle with circular base
c) Triangle, triangle
d) Circle, circle

Answer: a

24. A regular pentagon prism first placed in such a way its axis is perpendicular to H.P and one edge is parallel to V.P and next this is tilted such that its axis is making some acute angle with H.P. The front view for previous and later one will be _____

a) pentagon, rectangle
b) rectangle, pentagon
c) rectangle, rectangle
d) irregular hexagon, pentagon

Answer: c

25. A cylinder first placed in such a way its axis is perpendicular to H.P and next this is tilted such that its axis is making some acute angle with H.P. The top view for previous and later one will be _____
a) circle, rectangle with circular
ends b) rectangle, rectangle
c) rectangle with circular ends,
rectangle d) circle, rectangle

Answer: a