CHAPTER-11

CONIC SECTIONS

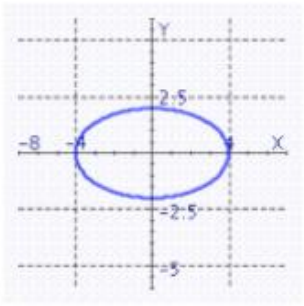
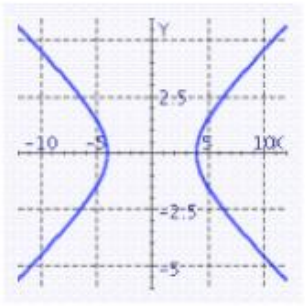
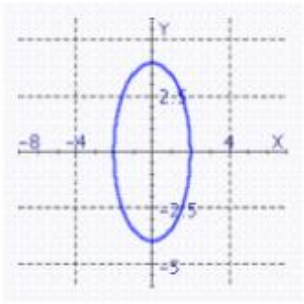
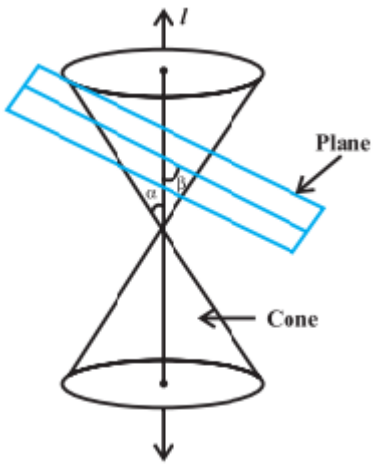
01 MARK TYPE QUESTIONS

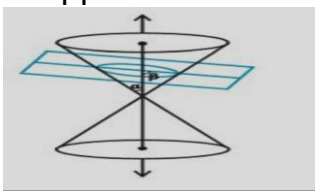
Q. NO	**QUESTION**	**MARK**
1.	Two persons are standing opposite to each other at the boundary of an elliptical ground in such a way that it creates a transverse axis then transverse axis is the distance between_____. (a)Two vertices (b)Two Foci (c)Vertex and the origin (d)Focus and the vertex	1
2.	Two students are playing badminton and the path of the cork is making a parabola. The parabolic path has the origin as its focus and the line x=2 as the directrix. Then the vertex of the parabola is at- (a)(2, 0) (b) (0, 2) (c) (1, 0) (d) (0, 1)	1
3.	Lalit is playing with a stone attached to a rope by revolving it in an orbit. The centre of the circular orbit$4X^2 + 4Y^2$ – 8X+ 12Y – 25 = 0 is (A) (-2, 3) (B) (1, -3/2) (C) (-4, 6) (D) (4, -6)	1
4.	Rita is sitting near the window and saw a rainbow in the shape of a parabola appears after the rain stops. The length of the latus rectum of rainbowX^2= -9Y is equal to  (a)3 units (b)-3 units (c)9/4 units (d)9 units	1
5.	Ram is making an omelet he observed that the egg is in the shape of an ellipse having equation $3X^2 + 4Y^2$= 12 then find the length of the latus rectum of the egg:-  (a)2/5 (b)3/5 (c)3 (d)4	1
6.	Rajesh has started a new job at a nuclear power plant and he observed that the chimneys at the plant are in the shape of hyperbola Find the eccentricity of the hyperbola: $3X^2 - 2Y^2$=16	1

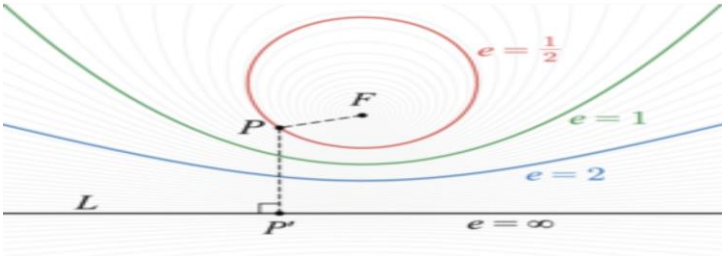
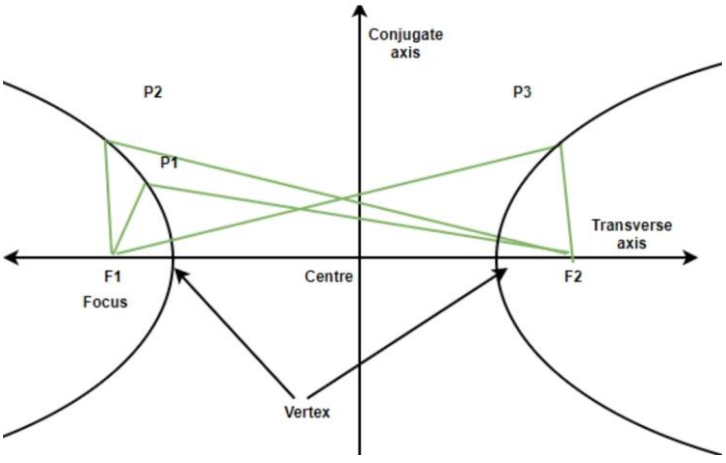
	 (a)e=$\sqrt{\frac{5}{2}}$ (b)e=$\sqrt{\frac{2}{5}}$ (c)e=$\frac{\sqrt{2}}{5}$ (d)None of these	
7.	A group of students are playing rugby with the rugby ball having the shape of an ellipse. Findthe coordinates of the foci of $\frac{x^2}{8}+\frac{y^2}{4}$=1  (a)F_1(2,0) & F_2(2,0) (b)F_1(−2,0) & F_2(2,0) (c)F_1(−2,0) & F_2(−2,0) (d)None of these	1
8.	The Locus of the planet orbiting the sun is:- (a)circle (b)A straight line (c)Semicircle (d)Ellipse	1
9.	Seema is playing guitar for her father when her father told her that the guitar is in the shape of a hyperbola. The equation of the hyperbola with vertices (0,$\pm$6) and eccentricity=5/3 is  (a)$16x^2-9y^2=576$ (b)$16y^2-9x^2=576$ (c)$9x^2-16\,y^2=576$ *(d)*$9y^2-16\,x^2=576$	1
10.	A teacher is telling the students about the revolution of the planets around the sun makes an elliptical shape Find the length of latus rectum of $25x^2+4y^2=100\ is$:-	1

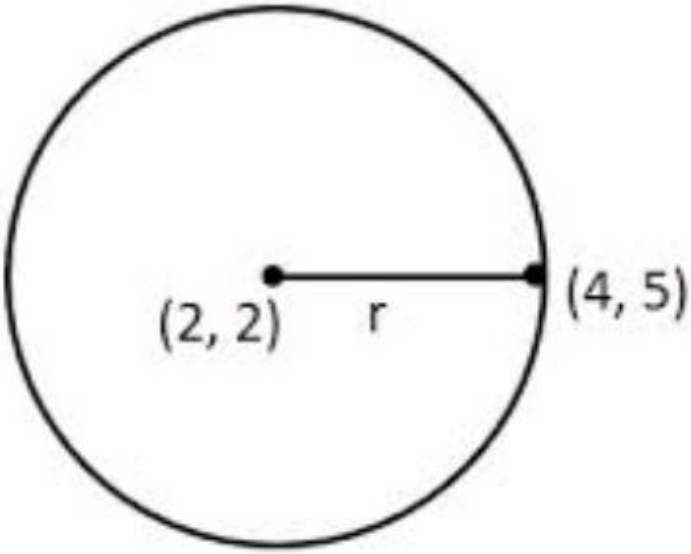
	 (a)3/5units (b)1/5units (c)8/5 units (d)None of these	
11.	What is major axes length for ellipse$(x/25)^2$ +($(y/16)^2$)=1? a) 5 units b) 4 units c) 8 units d) 10 units	1
12.	Assertion (A). The slope of a line passing through two points (-5, 2) and (3,-2) is −1/2 Reason (R). The slope of a line passing through two given points $(x_{1,}y_1\ )$ and $(x_{2,}y_2)$ is $(x_{2-}x_1\ )\ /\ (y_{2-,}y_1\ )$ a) Both A and R are true and R is the correct explanation of A. b) Both A and R are true but R is not correct explanation of A. c) A is true but R is false d) A is false but R is true. e) Both A and R are false.	1
13.	If a circle pass through (2, 0) and (0, 4) and centre at x-axis then find the radius of the circle. a) 25 units b) 20 units c) 5 units d) 10 units	1
14.	The tangents drawn from the origin to the circle $x^2+y^2-2rx-2hy+h^2$ =0 are perpendicular if ---------- a) h=r b) h= -r c) r^2+h^2 =1 d) r^2=5h^2	1
15.	The circle x^2+y^2+2ax+c = 0 , x^2+$y^2+2by+c$= 0 touch if ---------- a) 1/a^2+1/b^2 = 1/c b) 1/a^2+1/b^2 = 1/c^2 c) 1/a+ 1/b + 1/c = 0 d) None of these	1
16.	The equation of the circle which touch both the axes and the line x= a, are ---------- a) $x^2+y^2\pm ax\pm ay+a^2/4=0$ b) $x^2+y^2+ax\pm ay+a^2/4=0$ c) $x^2+y^2-ax\pm ay+a^2/4$ = 0 d) None of these	1

17.	The focus of the parabola y^2 = - 8x is ---------- A) (2,0) b) (-2,0) c) (0,2) d) (0,-2)	1
18.	If foci of an ellipse are (0, ±3) and length of semi-major axis is 5 units, then find the equation of ellipse. a) $(x/4)^2$ + $(y/5)^2$=1 b) $(x/5)^2$ + $(y/4)^2$=1 c) $(x/10)^2$ + $(y/8)^2$=1 d) $(x/8)^2$ + $(y/10)^2$=1	1
19.	What is eccentricity for $(x/9)^2$ - $(y/16)^2$=1 ? a) 2/5 b) 3/5 c) 1/5 d) 5/3	1
20.	What is equation of latus rectums of ellipse $(x/25)^2$ + $(y/16)^2$=1? a) x=±3 b) y=±3 c) x=±2 d) y=±2	1
21.	The equation of the circle in the first quadrant touching each coordinate axis at a distance of one unit from the origin is: (A) $x^2 + y^2 – 2x – 2y + 1 = 0$ (B) $x^2 + y^2 – 2x – 2y – 1 = 0$ (C) $x^2 + y^2 – 2x – 2y = 0$ (D) $x^2 + y^2 – 2x + 2y – 1 = 0$	1
22.	The area of the triangle formed by the lines joining the vertex of the parabola $x^2 = 12y$ to the ends of its latusrectum is (A) 12 sq. units (B) 16 sq. units (C) 18 sq. units (D) 24 sq. units	1
23.	If e is the eccentricity of the ellipse $\frac{x^2}{4} + \frac{y^2}{9} = 1$ is (A)9/4 (B)$\frac{\sqrt{13}}{3}$ (C) $\frac{\sqrt{5}}{3}$ (D) none of these	1
24.	The area of the circle centred at (1, 2) and passing through (4, 6) is (A) 5π (B) 10π (C) 25π (D) none of these	1
25.	The eccentricity of the hyperbola whose latus rectum is 8 and conjugate axis is equal to half of the distance between the foci is (A) 4/3 (B) 4/√3 (C) 2 /√3 (D) none of these	1
26.	The number of tangent that can be drawn from (1,2) to $x^2 + y^2 = 5$ (A) 0 (B) 1 (C) 2 (D) more than 2	1
27.	Eccentricity ‘e’ of parabola is (A) e < 1 (B) e > 1 (C) e = 1 (D) e = 0	1
28.	Identify the graph of the following equation.	

	$\frac{x^2}{16} + \frac{y^2}{4} = 1$ A)  C)  B)  D) None of these	1
29.	**Assertion (A).** The length of latus rectum of the parabola $x^2 = -y$ is 1. **Reason (R).** The length of latus rectum of the parabola $x^2 = -4ay$ is 4a. a) Both A and R are true and R is the correct explanation of A. b) Both A and R are true but R is not correct explanation of A. c) A is true but R is false d) A is false but R is true.	1
30.	 If $\alpha < \beta < 90°$, then section of cone is A) circle B) parabola C) ellipse D) hyperbola	1
31.	Which among the following is not a conic section? (a) Circle (b) Pair of intersecting straight lines (c) Hyperbola (d) Plane in 3D	1
32.	Directrix of the circle $x^2+y^2=1$ is/are at	1

	(a) Y axis (b) does not exists (c) exists at infinity (d) x=± r	
33.	Which among the following conic section does not have two directrix? (a) Parabola (b) Hyperbola (c) Ellipse (d)None of them	1
34.	The type of conic section having e=0 will be a (a)Parabola (b) Hyperbola (c) Ellipse(with a≠b) (d)Circle	1
35.	The equation xy =c (where c≠0, a real constant) represents a (a)Parabola (b) Hyperbola (c) Ellipse (d) Straight line	1
36.	The graph of which among the following is not a connected curve. (a) $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$ (b) $x^2=y$ (c)$\frac{x^2}{a^2}-\frac{y^2}{b^2}=1$ (d) $x^2+y^2=1$	1
37.	The point (-1,2) is situated (a) Over the Hyperbola $x^2-y^2=1$ (b) Outside the Hyperbola $x^2-y^2=1$ (c) Inside the Hyperbola $x^2-y^2=1$ (d) at a foci of the Hyperbola $x^2-y^2=1$	1
38.	The graph of which conic sections among the following is the graph of a function as f(x)=y [Where f:IR --> IR , x is along the X axis and y along Y axis]. (a) $x^2-y^2=1$ (b) $x^2+y^2=1$ (c) $y^2=x$ (d) $x^2=y$	1
39.	The equation of the mirror that can reflect all the incident rays from origin and parallel to Y axis is. (a) $x^2=4a(y+a)$ (b) $y^2=4a(x+a)$ (c) $y^2=-4a(y+a)$ (d) $x^2-y^2=a^2$	1
40.	If A and B are two fixed points and P is a variable point such that PA+PB=4; then the locus of P is (a)Parabola (b) Hyperbola (c) Ellipse (d) Straight line	1
41.	If a cone with two nappes cut by a plane and does not pass through its vertex,  the resulting curves will be? a) circle, cone, cylinder, Ellipse b)circle,Ellipse, Paraola, Hyperbola c) Ellipse, cone, Hyperbola, cylinder d) cone, frustrum of cone, Ellipse, circle	1
42.	When a < ß< 90°, if in this case the plane cuts the nappe other than the vertex  of the cone, then the obtained conic section is ? a) Circle	1

	b) Parabola c) Ellipse d) Hyper क्bola	
43.	Eccentricty of the conic sections are mentioned in the given below figure.  On the basis of that match the following: p) If e =1 (l) Parabola q) If 0< e<1 (m) Ellipse r) e >1 (n) Hyperbola a) p-l, q-n, r-m b) p-l, q-m, r-n c)p-n, q-l, r-m d) None of them	1
44.	One of the points on the parabola $y^2 = 12x$ with focal distance 12 is? i) (3, 6) ii) (7, 2√21) iii) (9,6√3) iv) (8, 4√6)	1
45.	The equation of the given figure is  $x^2/a^2 - y^2/b^2 = 1$ passes through the point(3√5, 1) and the length of its latus rectum is 4/3 units. The length of the conjugate is? Also the name of such conic figure is? i)2 units &Hyperbola ii) 3 units & Parabola	1

	iii) 4 units & Hyperbola iii) 5 units & Parabola	
46.	If the distance from the focus is 10 units and the distance from the directrix is 30 units, then what is the eccentricity? a) 0.3333 b) 0.8333 c) 1.6667 d) 0.0333	1
47.	Find the equation and area of the below given circle.  I) $(x - 2)^2 + (y - 2)^2 = 13$ & 13π sqare unit ii) $(x - 4)^2 + (y - 5)^2 = \sqrt{13}$ & 13π sqare unit iii) $(x - 2)^2 + (y - 2)^2 = \sqrt{13}$ &$\sqrt{13}$π sqare unit iv) $(x - 2)^2 + (y - 2)^2 = 13$ & 13π sqare unit	1
48.	If the distance from the focus is 3 units and the distance from the directrix is 3 units, then how much is the eccentricity? a) Infinity b) Zero c) Unity d) Less than one	1
49.	carefully and choose the correct answer from the four options given below (a) Both the Statements are true and Statement II is the correct explanation of Statem (b) Both the Statements are true and Statement II is not the correct	1

	explanation of Statement (c) Statement I is true, Statement II is false (d) Statement I is false, Statement II is true Statement I: The equation of ellipse having foci (0, 1), (0, -1) and minor axis of length 1 unit is $20x^2+4y^2=5$. Statement II: Eccentricity of an ellipse is less than 1.	
50.	The length of the transverse axis is the distance between the ____. a. Two vertices b. Two Foci c. Vertex and the origin d. Focus and the vertex	1
51.	The parametric equation of the parabola $y^2 = 4ax$ is a. $x = at; y = 2at$ b. $x = at^2; y = 2at$ c. $x = at^2; y^2 = at^3$ d. $x = at^2; y = 4at$	1
52.	The centre of the circle $4x^2 + 4y^2 – 8x + 12y – 25 = 0$ is a. (-2, 3) b. (1, -3/2) c. (-4, 6) d. (4, -6)	1
53.	The equation of the directrix of the parabola $y^2+4y+4x+2=0$ is a. $x = 1$ b. $x = -1$ c. $x = 3/2$ d. $x = -3/2$	1
54.	The number of tangents that can be drawn from (1, 2) to $x^2+y^2 = 5$ is a. 0 b. 1 c. 2 d. More than 2	1

55.	The length of the latus rectum of $x^2 = -9y$ is equal to a. 3 units b. -3 units c. 9/4 units d. 9 units	1
56.	For the ellipse $3x^2+4y^2 = 12$, the length of the latus rectum is: a. 2/5 b. 3/5 c. 3 d. 4	1
57.	The eccentricity of hyperbola is a. e =1 b. e > 1 c. e < 1 d. 0 < e < 1	1
58.	The focus of the parabola $y^2 = 8x$ is a. (0, 2) b. (2, 0) c. (0, -2) d. (-2, 0)	1
59.	In an ellipse, the distance between its foci is 6 and the minor axis is 8, then its eccentricity is a. 1/2 b. 1/5 c. 3/5 d. 4/5	1
60.	The equation of a circle with center (-2, 3) is $x^2 + y^2+ 4x – 6y – 3 = 0$. Find the radius of the circle? a. 4 b. 3 c. 5 d. -1	1
61.	Determine the focus coordinates for parabola $y^2 = -8x$ a. 4,0 b. -4,0	1

	c. 5,0 d. 2,0	
62.	The length of the transverse axis is the distance between the ____. a. Two vertices b. Two Foci c. Vertex and the origin d. Focus and the vertex	1
63.	The centre of the circle $4x^2 + 4y^2 – 8x + 12y – 25 = 0$ is a. (-2, 3) b. (1, -3/2) c. (-4, 6) d. (4, -6)	1
64.	The number of tangents that can be drawn from (1, 2) to $x^2+y^2 = 5$ is a. 0 b. 1 c. 2 d. More than 2	1
65.	The length of the latus rectum of $x^2 = -9y$ is equal to a. 3 units b. -3 units c. 9/4 units d. 9 units	1
66.	For the ellipse $3x^2+4y^2 = 12$, the length of the latus rectum is: a. 2/5 b. 3/5 c. 3 d. 4	1
67.	The eccentricity of hyperbola is a. e =1 b. e > 1 c. e < 1 d. 0 < e < 1	1
68.	The focus of the parabola $y^2 = 8x$ is a. (0, 2) b. (2, 0) c. (0, -2) d. (-2, 0)	1
69.	The line through the foci of Hyperbola is known as a. Latus rectum b. Conjugate axis c. Transverse axis d. Eccentricity	1

ANSWERS:

Q. NO	ANSWER	MARKS
1.	(a)two vertices	1
2.	(c)(1,0)	1
3.	(b)(1, -3/2)	1
4.	(d)9 units	1
5.	(c)3	1
6.	(a)e=$\sqrt{\frac{5}{2}}$	1
7.	(b)	1
8.	(c)8/5 unit	1
9.	(d) Ellipse	1
10.	(b)$16y^2 - 9x^2 = 576$	1
11.	D	1
12.	C	1
13.	C	1
14.	A	1
15.	A	1
16.	C	1
17.	B	1
18.	A	1
19.	D	1
20.	A	1
21.	A	1
22.	D	1
23.	C	1
24.	C	1
25.	C	1
26.	A	1
27.	C	1
28.	A	1
29.	A	1
30.	C	1
31.	d	

32.	c	
33.	a	
34.	d	
35.	b	
36.	c	
37.	c	
38.	d	
39.	a	
40.	c	
41.	b)circle,Ellipse, Paraola, Hyperbola	1
42.	a) Circle	1
43.	b) p-l, q-m, r-n	1
44.	iii) (9, 6√3)	1
45.	iii) 4 units & Hyperbola	1
46.	i)0.3333	1
47.	iv) $(x-2)^2+(y-2)^2=13$ & 13π sqaure unit.	1
48.	iii) unity	1
49.	b) Both the Statements are true and Statement II is not the correct explanation of Statement	1
50.	(a) Two vertices	1
51.	(b) $x = at^2$; $y = 2at$	1
52.	(b) (1, -3/2)	1
53.	(c) x = 3/2	1
54.	(b) 1	1
55.	(d) 9 units	1
56.	(c) 3	1
57.	(b) e > 1	1
58.	(b) (2, 0)	1
59.	(c) 3/5	1

60.	a	1
61.	d	1
62.	a	1
63.	b	1
64.	b	1
65.	d	1
66.	c	1
67.	b	1
68.	b	1
69.	c	1