ECAT Pre General Science Mathematics Chapter 23 Conic Section Online Test

Sr	Questions	Answers Choice
1	A line segment whose end points lie on a circle is called	A. The secant of the circle B. The arc of the circle C. The chord of the circle D. The circumference of the circle
2	The equation of the normal to the circle $x^2+ y^2= 25$ at (4, 3) is	A. 3x - 4y =0 B. 3x - 4y =5 C. 4x + 3y = 5 D. 4x + 3y = 25
3	The point (x_1, y_1) lies outside the circle $x^2+ y^2+ 2gx + 2fy + c =0$ if	
4	The circle $(x - 2)^2+ (y + 3)^2= 4$ is not concentric with the circle	A. (x - 2)²+ (y + 3)²= 9 B. (x + 2)²+ (y - 3)²= 4 C. (x + 2)²+ (y - 3)²= 8 D. (x - 2)²+ (y + 3)²= 5
5	If $x + y + 1 = 0$ touches the parabola $y^2=\lambda x$, then λ is equal to	A. 2 B. 4 C. 6 D. 8
6	The parabola $y^2= x$ is symmetric about	A. x-axis B. y-axis C. Both x and y-axis D. The line y = x
7	If (a, b) is the mid-point of a chord passing thro' the vertex of the parabola $y^2= 4x$, then	A. a = 2b B. 2a = b C. a²= 2b D. 2a = b²
8	If t is the parameter for one end of a focal chord of the parabola $y^2= 4ax$, then its length is	
9	The point on $y^2 = 4ax$ nearest to the focus has its abciassae equal to	A. -a B. a C. a/2 D. 0
10	The radius of the circle $(x - 1)^2+ (y + 3)^2= 61$ is	A. 8 B. 4 C. 64 D. None of these
11	Question Image	
12	The constant distance of all points of the circle from its centre is called the	A. Radius of the circle B. Secant of the circle C. Chord of the circle D. Diameter of the circle
13	If a cone is cut by a plane perpendicular to the axis of the cone, then the section is a	A. Parabola B. Circle C. Hyperbola D. Ellipse
14	If the st. line $3x + 4y = K$ touches the circle $x^2+ y^2- 10x = 0$ then the value of K is	A. -1 or 20 B. -10 or 40 C. -2 or 20 D. 2 or 20
15	A square is inscribed in the circle $x^2+ y^2- 2x + 4y + 3 =0$. Its sides are parallel to the co-ordinate axes. Then one vertex of the square is	
16	The equation of a line parallel to the tangent to the circle $x^2+ y^2= 16$ at the point (2, 3) and passing thro' the origin is	A. 2x + 3y = 0 B. 2x - 3y = 0 C. 3x + 2y = 0 D. 3x - 2y = 0

17	The line 3x - 4y = 0	A. Is a tangent to the circle x²+ y²= 25 B. Is a normal to the circle x²+ y²=25 C. Does not meet the circle x²+ y²= 25 D. Does not pass thro' the origin
18	Question Image	A. 2 b B. 2 a C. 2 ab D. a + b
19	A circle is a limiting case of an ellipse whose eccentricity	A. Tends to a B. Tends to b C. Tends to 0 D. Tends to a + b
20	Question Image	A. An ellipse B. A parabola C. A circle D. A hyperbola
21	The latus rectum of the ellipse $5x^2+ 9y^2= 45$ is	A. 10 / 3 B. 5 / 3 C. 3 / 5 D. 3 / 10
22	The equation $ax^2+ 2hxy + by^2 +2gx + 2fy + c =0$ represents an ellipse if	
23	The slope of the normal at the point $(at^2, 2at)$ of the parabola $y^2= 4ax$ is	A. 1/t B. t C. -t D. -1/t
24	The line $y = 2 x + c$ is a tangent to the parabola $y^2= 16 x$ if c equals	A. -2 B. -1 C. 0 D. 2
25	The equation of the parabola with directirx x = 2 and the axis y = 0 is	A. y²= 8x B. y²= -8x C. y²= 4x D. y²= -4x
26	The equation of the directrix of the parabola $x^2= 4ay$ is	A. x + a = 0 B. x - a = 0 C. y + a = 0 D. y - a = 0
27	The eccentricity of the parabola $y^2= -8x$ is	A. -2 B. 2 C. -1 D. 1
28	The length of the tangent from (2, 1) to the circle $x^2+ y^2+ 4y + 3 = 0$ is	
29	The equation of the chord of the circle $x^2+ y^2- 4x = 0$ whose mid-point is (1, 0) is	A. y = 2 B. y = 1 C. x = 2 D. x = 1
30	The line Ax + By + C = 0 will touch the circle $x^2+ y^2=\lambda$ when	A. C²=λ (A²+ B²) B. A²=λ(A²+ C²) C. B²=λ(A²+ C²) D. None of these