ECAT Pre General Science Mathematics Chapter 23 Conic Section Online Test

Sr	Questions	Answers Choice
1	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
2	Conic sections or simply conics are the curves obtained by cutting a right circular cone by	A. a line B. two lines C. a plane D. two planes
3	The second degree equation of the form Ax2 +By2 +Gx +Fy +C =0 represent hyperbola if	A. A = B≠ 0 B. A≠ B and both are of same sign C. A≠ B both are of opposite sign D. Either A = 0 or B =0
4	If the distance of any point on the curve from any of the two lines approaches zero then it is called	A. Axis B. Directrices C. Asymptotes D. None
5	The ellipse and hyperbola are called	A. Concentric conics B. Central conics C. Both a b D. None
6	The directrix of y2 =-4ax is	A. y =-a B. y = a C. x = a D. x = -a
7	A line joining two distinct points on a parabola is called	A. Axis B. Directrix C. Chord D. Tangent
8	For the parabola the line through focus and perpendicular to the directrix is called	A. Tangent B. Vertex C. Axis D. None
9	The eccentricity e of an ellipse is always	A. Rational B. Real C. Irrational D. Integer
10	The line y= 4x +c touches the hyperbola x2- y2 =1 if and only if	A. c =±√2 B. c =0 C. c=±√17 D. c=±√15
11	If e,e′ be the eccentricities of two conics S=0 and S′ =0 and if e2 +e′2 =3 then both S and S′ can be	A. Hyperbola B. Parabolas C. Ellipses D. None of these
12	The line 2x +√6y =2 is a tangent to the curve x2 -2y2 =4 The point of contact is	A. (√6,1) B. (2,3) C. (7,-2√6) D. (4,-√6)
13	If eccentricity of ellipse becomes zero then it takes the form of	A. A parabola B. A circle C. A straight line D. None of these
14	The sum of the focal distance from any point on the ellipse 9x2 +16y2 =144 is	A. 32 B. 16 C. 18 D. 8
15	The centre of the conic x2 +16x +4y2 -16y +76 =0 is	A. (0,10) B. (-8,4) C. (-8,-2) D. (1,1)

16	Intersection of two parabolas	A. parabola B. Two points C. Four points D. Hyperobla
17	If either A = 0 or B =0,then Ax2 +By2 +2Gx +2Fy +c =0 represents a	A. Circle B. Hyperbola C. Ellipse D. Parabola
18	ax2 +2hxy +by2 +2gx +2fy +c =0 may represent an ellipse if	A. h2 -ab <0 B. h2 -ab≠ 0 C. h2 -ab =0 D. h2 -ab >0
19	The remove the term involving xy, from 7x2 -6√3xy+ 13y2 -16 =0 the angel of rotation is	A. θ = 30° B. θ = 45° C. θ = 60° D. θ = 75°
20	The second degree equation 2x2 -xy+ 5x -2y +2 =0 represents	A. Circle B. Hyperbola C. Ellipse D. Pair of straight lines
21	If the line 2x -y +k =0 is a diameter of the circle x2 +y2 +6x -6y +5 =0 then k is equal to	A. 12 B. 9 C. 6 D. 3
22	The area of the circle centred at (1,2) and passing through (4,6) is	A. 30 πsq.units B. 5π sq.units C. 15π sq.units D. 25π sq.units
23	The number of tangents to the circle x2+ y2 -8x -6y +9 =0 which pass through the point (3,-2) is	A. 2 B. 1 C. 0 D. None of these
24	The slope of the tangent at the point (h,h) of the circle x2 +y2 =a2 is	A. 0 B. 1 C. -1 D. h
25	The equation x2+ y2- 8x+ 6y+ 25= 0 represents	A. A circle B. A pair of straight lines C. A point D. None of these
26	Two circle s1: x2+ y2 +2x- 2y- 7= 0: s2: x2+ y2- 6x+ 4y+ 9= 0	A. Touch externally B. Touch internally C. Intersects each other D. Do not intersects
27	The tangent to the parabola y2 =4ax and perpendicular line from the focus on it meet	A. x =0 B. y =0 C. x =-9 D. y = -a
28	If 2x +y + λ =0 is normal to parabola y2 =-8x,λ= _____	A. 12 B. 8 C. 24 D. -24
29	The line y =mx +1 is tangent to the parabola y2 =4x if	A. m=1 B. m=2 C. m=3 D. m=4
30	If (2,0) is the vertex and y-axis is directrix of parabola then focus is	A. (2,0) B. (-2,0) C. (4,0) D. (-4,0)