ECAT Pre General Science Mathematics Chapter 23 Conic Section Online Test

Sr	Questions	Answers Choice
1	The eccentricity e of an ellipse is always	A. Rational B. Real C. Irrational D. Integer
2	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
3	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
4	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)
5	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
6	The sum of the focal distance from any point on the ellipse 9x2 +16y2 =144 is	A. 32 B. 16 C. 18 D. 8
7	The centre of the conic x2 +16x +4y2 -16y +76 =0 is	A. (0,10) B. (-8,4) C. (-8,-2) D. (1,1)
8	Intersection of two parabolas	A. parabola B. Two points C. Four points D. Hyperobla
9	If either A = 0 or B =0,then Ax2 +By2 +2Gx +2Fy +c =0 represents a	A. Circle B. Hyperbola C. Ellipse D. Parabola
10	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
11	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°
12	The second degree equation 2x2 -xy+ 5x -2y +2 =0 represents	A. Circle B. Hyperbola C. Ellipse D. Pair of straight lines
13	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
14	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
15	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

16	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
17	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
18	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
19	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
20	If 2x +y + λ =0 is normal to parabola y2 =-8x,λ= _____	A. 12 B. 8 C. 24 D. -24
21	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
22	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)
23	Number of conics is	A. 1 B. 3 C. 2 D. 4
24	The vertex of the parabola (xsin a -ycos a)2 =4a(xcos a +ysin a) lies at	A. (acos a,asin a) B. (a,0) C. (cos a,sin a) D. (0,0)
25	The number of standard parabolic functions are is	A. 4 B. 2 C. 3 D. 1
26	The parabolay2=4ax open up if	A. a<0 B. a≠0 C. a>0 D. All are incorrect
27	y=-a is the equation of the directrix of	A. y2 =4ax B. x2=-4ay C. x2=4ay D. y2=-4ax
28	Equation of normal to the circle x2 + y2 =25 at (5cosθ,5sinθ)	A. xcosθ+ysinθ =5 B. xcosθ -ysinθ =0 C. xsinθ -ycosθ =0 D. None of these
29	For what value of k, 3x -2y+ k= 0 is tangent to the circle x2 +y2 +6x -4y =0	A. k=0 B. k=0 or 26 C. k = 26 D. k=-13
30	Two circles x2 +y2 +8x -9= 0 and x2+y2+6y +k =0 touchinternallyif the value of k is	A. k = 9 B. k = ±9 C. k=-9 D. k=11