

ECAT Pre Engineering Entry Test

Sr	Questions	Answers Choice
1	An ellipse slides between two lines at right angles to one another. The locus of its centre is :	A. a parabola B. an ellipse C. a circle D. a hyperbola
2	The eccentricity of ellipse becomes zero, then it takes the form of:	A. a parabola B. a straight line C. a circle D. None of these
3	The locus of intersection of perpendicular tangents to the parabola $y^2 = 4ax$ is:	A. Axis of the parabola B. Focal chord of the parabola C. The tangent at vertex of the parabola D. a directrix of the parabola
4	The eccentricity of parabola is:	A. 1 B. 0 C. Greater than 1 D. Less than 1
5	Co-ordinate of a point on the parabola $y^2 = 8x$ whose focal distance is 4 are:	A. (2, 4) B. (-2, -4) C. (-2, 4) D. (2, -4)
6	Coordinates of the focus of the parabola $x^2 - 4x - 8y - 4 = 0$ are:	A. (0, 2) B. (0, 1) C. (2, 0) D. (1, 2)
7	Which shape of the following objects are approximately parabolic arcs?	A. Light reflectors B. Force C. Weight of the pendulum D. None of these
8	Latus rectum = 4 x _____	A. focal distance of the vertex B. Chord C. Focus D. 1/2
9	If $e > 1$, then the conic, is:	A. Ellipse B. Parabola C. Hyperbola D. None of these
10	the latus rectum of the parabola $x^2 = -4ay$ is:	A. $x = a$ B. $y = -a$ C. $x = -a$ D. $y = 0$
11	the curve of the parabola $y^2 = -4ax$ is symmetric with respect to	A. x-axis B. y-axis C. Both x and y-axis D. None of these
12	The point which is closest to the focus of a parabola is:	A. vertex B. Chord C. Focus D. Directrix
13	The parabola $y^2 + 2y + x = 0$ lie in _____ quadrant.	A. First B. Second C. Third D. Fourth
14	The axis of the parabola $x^2 = 4ay$ is:	A. $y = 0$ B. $x = 0$ C. $x = -a$ D. $y = a$
15	What is the axis of the parabola $y^2 = 4ax$?	A. $x = 0$ B. $y = 0$ C. $x = a$ D. $y = a$

		D. $y = 0$
16	The conic is a parabola, when:	A. $e > 1$ B. $e < 1$ C. $e = 1$ D. $e = 0$
17	If the vertex of the parabola is the origin and directrix is $x+5 = 0$. then its latus rectum is:	A. 10 B. 5 C. 0 D. 20
18	The distance of point P(x,y) from focus in a parabola $y^2 = 4ax$, is:	A. 2a B. a C. $x + a$ D. $x - a$
19	a chord passing through the focus of a parabola is called a:	A. Focal chord B. Latus rectum C. Tangent D. Directrix
20	$y=0$ of the parabola $y^2 = 4ax$ is the	A. equation of directrix B. Equation of the tangent C. Equation of axis D. equation of latus rectum
21	If the focus is F (0,-a) and directrix is the line $v=a$, then equation of the parabola is:	A. $x^2 = 4ay$ B. $y^2 = 4ax$ C. $y^2 = -4ax$ D. $x^2 = 4ax$
22	A line joining two distinct points on a parabola is called a _____ of the parabola.	A. Chord B. Tangent C. Latus rectum D. directrix
23	If the focus lies on the y-axis with coordinates f(0,a) and directrix of the parabola is $y = -a$, the equation of parabola is:	A. $y^2 = -4ax$ B. $x^2 = 4ay$ C. $x^2 = -4ay$ D. $y^2 = 4ax$
24	a is a	A. variable B. Positive constant C. Positive variable D. Directrix
25	The line through the focus and perpendicular to the directrix is called _____ of the parabola	A. axis B. focal chord C. tangent D. latus rectum
26	The vertex of the equation $y^2 = 4ax$ is:	A. (2, -2) B. (1, 1) C. (0, 0) D. (2, 2)
27	If (0,4) and (0,2) are vertex and focus of the parabola respectively, the the equation of the parabola is:	A. $x^2 = 4y - 32$ B. $x^2 = 8y - 32$ C. $y^3 = 16x$ D. $x^2 + 8y = 32$
28	The point where the axis meets the parabola is called	A. Directrix B. Foucu C. Chord D. Vertex
29	The slope of the normal at (5 cos θ , 5 sin θ) to the circle. $x^2 + y^2 = 25$ is:	A. $\tan \theta$ B. $\cos \theta / \sin \theta$ C. $-\cot \theta$ D. $-\tan \theta$
30	The slope of the normal at (4,3) to the circle $x^2 + y^2 = 25$ is	A. 3/4 B. -3/4 C. 4/3 D. -4/3