

ECAT Pre General Science Mathematics Online Test

Sr	Questions	Answers Choice
1	If $uv = \text{Proj}_v u$ then	A. Uandvare parallel B. u is a unit vector C. v is a unit vector D. Both b and c
2	If $\text{Proj}_v u = \text{Proj}_v v$, then	A. Uand vare parallel B. $ u = v $ C. Uandvare perpendicular D. One ofuorv
3	The feasible region which can be enclosed within a circle is called	A. Bounded region B. Convex region C. Unbounded region D. None
4	For different values of k equation $4x+5y=k$ represents	A. Parallel lines B. Lines parallel to x -axis C. Perpendicular lines D. Lines parallel to y -axis
5	Any horizontal line divided the plane into	A. Left half plane B. Upper and lower half planes C. Infinite number of horizontal liens D. None of these
6	The graph of $y < 2$ is the	A. Left half plane B. upper half plane C. Right half plane D. Lower half plane
7	The ratio in which the line $y - x + 2 = 0$ divides the line joining $(3,-1)$ and $(8,9)$ is	A. 2:3 B. -2:3 C. 3:2 D. -3:2
8	A quadrilateral whose diagonals are perpendicular bisector of each other is	A. Square B. Rectangle C. Rhombus D. Parallelogram E. Trapezium
9	Number of lines passing through three non-collinear points is	A. 2 B. 3 C. 1 D. 0 E. ∞
10	$(-28, 12)$ divides the join of $A(-6, 3)$ and $B(5, -2)$ in ratio	A. 1:2 B. 3:2 C. 2:3 D. 2:1
11	The area of the rhombus whose vertices are $A(0,0), B(2,1), C(3,3), D(1,2)$ is	A. 36 square units B. 3 square units C. 6 square units D. 18 square units
12	A joint equation of the lines through the origin and perpendicular to the lines $ax^2 + 2hxy + by^2 = 0$ is identical is $ax^2 + 2hxy + by^2 = 0$ if	A. $h^2 = ab$ B. $a + b = 0$ C. $a = b$ D. $a \neq b$ E. $a = b = 0$
13	The angle between lines $xy = 0$ is	A. 45° B. 60° C. 90° D. 180°
14	The ortho center of triangle whose vertices are $(0,0)(3,0)(0,4)$ is	A. $(0,0)$ B. $(1,1)$ C. $(2,2)$ D. $(3,3)$
		A. Parallel B. Perpendicular C. Coincident D. None of these

15	The two lines $y = 2x$ and $x = 2y$ are	B. Perpendicular C. Equally inclined with axes D. Congruent
16	The equation of line passing through intersection of line $x = 0$ and $y = 0$ and the point $(2,2)$ is	A. $y = x$ B. $y = x - 1$ C. $y = x + 1$ D. $y = x + 1$
17	The obtuse angle between lines $x = -2$ and $y = x + 2$ is	A. 120° B. 135° C. 150° D. 140°
18	The length of perpendicular from $(3,1)$ to $4x + 3y + 20 = 0$ is	A. 6 B. 7 C. 3 D. 8
19	If $A(a,b)$ lies on $3x + 2y = 13$ and point $B(b,a)$ lies on $x - y = 5$ then equation of AB is	A. $x - y = 5$ B. $x + y = 5$ C. $x + y = -5$ D. $5x + 5y = 21$
20	If line through $(4,3)$ and $(2,k)$ is perpendicular to $y = 2x + 3$, then $k =$ _____	A. -1 B. 1 C. -4 D. 4
21	If $kx^2 + 2hxy - 4y^2 = 0$ represents two perpendicular lines then	A. $k = 2$ B. $k = \pm 2$ C. $k = -2$ D. $k \neq 0$
22	The measure of the acute angle between the lines represented by $x^2 - xy - 6y^2 = 0$ is	A. 120° B. 30° C. 130° D. 45°
23	The exterior angle of the interior angle C of the quadrilateral whose vertices are $A(5,2), B(-2,3), C(-3,-4), D(4,-5)$ is	A. 30° B. 60° C. 45° D. 90°
24	The points $A(+1,-1), B(3,0), C(3,7), D(1,8)$ are vertices of	A. Square B. Parallelogram C. Rectangle D. Trapezium
25	Area of the triangle whose vertices are $(2,3), (0,1), (0,0)$ is	A. 6 B. 2 C. 4 D. 1
26	The equation of the line perpendicular to x -axis and passing through $(-5,3)$ is	A. $y - 3 = 0$ B. $x + 3 = 0$ C. $y - 3 = \infty$ D. $x + 5 = 0$
27	The point $P(5,8)$ and the origin lie on the side of the line $3x + 7y + 15 = 0$	A. Same side B. P above and origin below C. Opposite side D. P below and origin above
28	The points $A(3,1), B(-2,-3), C(2,2)$ are vertices of an (an)	A. Right triangle B. Equilateral triangle C. Isosceles triangle D. Scalene triangle
29	The line through the intersection of the lines $x + 2y + 3 = 0$: $3x + 4y + 7 = 0$ and making equal intercepts on the axes is	A. $x + y + 1 = 0$ B. $x + y - 2 = 0$ C. $x + y + 2 = 0$ D. $2x + y + 2 = 0$
30	The straight lines represented by the equation $ax^2 + 2hxy + by^2 = 0$ intersects at	A. $(1,1)$ B. $(0,1)$ C. $(1,0)$ D. $(0,0)$