

Mathematics ECAT Pre Engineering Chapter 18 Analytic Geometry Online Test

Sr	Questions	Answers Choice
1	Area bounded between the curve $xy=2$ and the lines $x=1$ and $x=2$	A. $\ln 2$ square units B. $\ln \sqrt{2}$ square units C. $\ln 4$ square units D. Square units
2	If the points $(a,2b):(c,a+b):(2c-a,h)$ lie on the same line then	A. $h=2a$ B. $h=a+b$ C. $h=ab$ D. $h=ac$
3	If the lines $2x-3y-1=0$, $3x-y-5=0$ and $3x+py+8=0$ meet at a unique point then	A. $p = -14$ B. $p = -1$ C. $p = 0$ D. $p=12$
4	The point of concurrency of the medians of the $\triangle ABC$ is called its	A. Orthocenter B. Centroid C. Circumcentre D. Incentre
5	The coordinates of a point $P(x,y)$ referred to XY-system are	A. $(x+y,y+k)$ B. $(x-h,y-k)$ C. (x,y) D. $(x-h,y-k)$
6	The line l is horizontal if	A. m is undefined B. $m=0$ C. $m=1$ D. $m=0-1$
7	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. $(0,0)$
8	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. $2x+y+2=0$
9	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
10	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
11	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. $x+5=0$
12	Area of the triangle whose vertices are $(2,3)$, $(0,1)$, $(0,0)$ is	A. 6 B. 2 C. 4 D. 1
13	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
14	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°
15	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°

16	If $kx^2 + 2hxy - 4y^2 = 0$ represents two perpendicular lines then	A. $k = 2$ B. $k = \pm 2$ C. $k = -2$ D. $k \neq 0$
17	If line through (4,3) and (2,k) is perpendicular to $y = 2x + 3$, then $k =$ _____	A. -1 B. 1 C. -4 D. 4
18	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. $5x + 5y = 21$
19	The length of perpendicular from (3,1) to $4x + 3y + 20 = 0$ is	A. 6 B. 7 C. 3 D. 8
20	The obtuse angle between lines $x = -2$ and $y = x + 2$ is	A. 120° B. 135° C. 150° D. 140°
21	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. $y = x + 1$
22	The two lines $y = 2x$ and $x = 2y$ are	A. Parallel B. Perpendicular C. Equally inclined with axes D. Congruent
23	The angle between lines $xy = 0$ is	A. 45° B. 60° C. 90° D. 180°
24	A joint equation of the lines through the origin and perpendicular to the lines $ax^2 + 2hxy + by^2 = 0$ is identical to $ax^2 + 2hxy + by^2 = 0$ if	A. $h^2 = ab$ B. $a + b = 0$ C. $a = b$ D. $a \neq b$ E. $a = b = 0$
25	(-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
26	Number of lines passing through three non-collinear points is	A. 2 B. 3 C. 1 D. 0 E. ∞
27	A quadrilateral whose diagonals are perpendicular bisector of each other is	A. Square B. Rectangle C. Rhombus D. Parallelogram E. Trapezium
28	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
29	Any horizontal line divided the plane into	A. Left half plane B. Upper and lower half planes C. Infinite number of horizontal lines D. None of these
30	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
31	For all points (x,y) in first quadrant	A. $x \geq 0, y \leq 0$ B. $x \geq 0, y \geq 0$ C. $x \leq 0, y \leq 0$ D. $x \leq 0, y \geq 0$
32	For all points (x,y) in second quadrant	A. $x \geq 0, y \leq 0$ B. $x \geq 0, y \geq 0$ C. $x \leq 0, y \leq 0$ D. $x \leq 0, y \geq 0$

33	For all points (x,y) in third quadrant	A. $x > 0, y < 0$ B. $x < 0, y > 0$ C. $x < 0, y < 0$ D. $x < 0, y > 0$
34	For all points (x,y) in fourth quadrant	A. $x > 0, y < 0$ B. $x < 0, y > 0$ C. $x < 0, y < 0$ D. $x < 0, y > 0$
35	For all points (x,y) on x-axis	A. x is positive B. x is negative C. $y = 0$ D. y is negative
36	For all points (x,y) on y-axis	A. x is positive B. $x = 0$ C. x is negative D. $y = 0$
37	The distance between two points P(x_1, y_1) and Q (x_2, y_2) is	
38	The square of the distance between two points P(x_1, y_1) and Q(x_2, y_2) is	
39	The distance between the points (0,0) and (x,y) is	A. $x^2 + y^2$ B. x C. y
40	The distance between the points (0 , 0) and (1, 2) is	A. 5 C. 0 D. 3
41	The distance between the points (0 , 0) and (2, 1) is	A. 5 C. 0 D. 3
42	The distance between the points (1, 2) and (2, 1) is	A. 3 B. 6
43	The distance between the points (2, 2) and (3, 3) is	A. 10 C. 5 D. 2
44	The distance of the point (a, b) from x-axis is	A. a B. b C. $a + b$
45	The distance of the point (a,b) from y-axis is	A. a B. b C. $a + b$
46	The distance of the point (2,3) from x-axis is	A. 2 B. 3 C. 5
47	The distance of the point (-2,3) from x-axis is	A. -2 B. 2 C. 3 D. 1
48	The distance of the point (2, -3) from x-axis is	A. -2 B. -3 C. 2 D. 3
49	The distance of the point (2,3) from y-axis is	A. 2 B. 3 C. 5
50	The distance of the point (2,-3) from y-axis is	A. 2 B. -3 C. 1 D. 5
51	The distance of the point (-2 , 3) from y-axis is	A. 2 B. -2 C. 3 D. 1
52	The distance of the point (-2 , -3) from x-axis is	A. 2 B. -3 C. 3 D. 5
53	The distance of the point (-2 , -3) from y-axis is	A. 2 B. -2 C. 3 D. -3

54	The distance of the point (2,3) from origin is	B. 5 C. 2 D. 3
55	The distance of the point (-2, -3) from the origin is	A. 2 B. -5 C. -3
56	If d_1 is the distance between (0,0) and (1,2) and d_2 is the distance between (0,0) and (2,1) then	A. $d_1 \geq d_2$ B. $d_1 < d_2$ C. $d_1 > d_2$ D. none of these
57	If d_1 is the distance between (0,0) and (1,2) and d_2 is the distance between (0,0) and (-1,-2) the	A. $d_1 < d_2$ B. $d_1 > d_2$ C. $d_1 \geq d_2$ D. none of these
58	The distance between the points (2,3) and (3,2) is	A. 5 C. 2 D. 10
59	If distance of (a,b) from x-axis is 2 then	A. $a = 2$ B. $b = 2$ C. $a = b$ D. $b = 4$
60	If distance of (a,b) from y-axis is 2 then	A. $a = 2$ B. $b = 2$ C. $a = b$ D. $a = 4$
61	If distance of (a,b) from origin is 5 then	A. $a^2 + b^2 = 5$ B. $a = 5$ C. $b = 5$
62	If distance between (a,2) and (0,0) is 2 then $a =$ _____	A. 0 B. 2 C. 4
63	If distance between (3,b) and (0,0) is 3 then $b =$ _____	A. 3 C. 9 D. 0
64		A. 1 B. 2 C. 3
65		A. 1 B. 2 C. 3
66		A. 3 B. 1 C. 4
67	The distance of the point (1.1) from the origin is	A. 0 B. 2
68	The point R dividing internally the line joining the points $P(x_1, y_1)$ and $Q(x_2, y_2)$ in the ratio $k_1: k_2$ has the coordinates	
69	The point R dividing externally the line joining the points $P(x_1, y_1)$ and $Q(x_2, y_2)$ in the ratio $k_1: k_2$ has the coordinates	
70	The mid point of the line joining the points $P(x_1, y_1)$ and $Q(x_2, y_2)$ is	
71	The distance between the points A(3,1) and B(-2,-4) is	A. 5 C. 25 D. 10
72	The distance between the points A(-8,3) and B(2,-1) is	B. 116 D. none of these
73	The mid point of the line segment joining the points A(3,1) and B(-2,-4) is	A. (1, -3)
74	The mid point of the line segment joining the points A(-8,3) and B(2,-1) is	A. (-3,1) B. (-6,2) C. (5,2) D. (-5,2)
75	The mid point of the line segment joining the points (4,0) and (0,4) is	A. (4,4) B. (2,2) C. (-4,-4) D. (-2,-2)

A. (3,-1)

76	The mid point of the line segment joining the points (3,-1) and (-3,1) is	B. (0,0) C. (2,2) D. (4,4)
77	The mid point of the line segment joining the points (a,b) and (b,a) is	
78	Question Image	A. 1 B. 2 C. -1 D. 0
79	Question Image	A. a B. 2a C. 3a D. 4a
80	If origin is the mid point of (a,3) and (5,b) then	A. a = -5 , b = -3 B. a = 5 , b = 3 C. a = -5 , b = 3 D. a = 5 , b = -3
81	If origin is the mid point of (a, -3) and (-5, b) then	A. a = -5 , b = -3 B. a = 5 , b = 3 C. a = -5 , b = 3 D. a = 5 , b = -3
82	If (2, 3) is the mid point of (a, 3) and (5, b) then	A. a = 1 , b = -3 B. a = -1 , b = 3 C. a = 1 , b = 3 D. a = -1 , b = -3
83	The coordinates of the point that divides the join of A(-6,3) and B(5, -2) in the ratio 2:3 internally	
84	The coordinates of the point that divides the join of A(-6,3) and B(5, -2) in the ratio 2:3 externally are	
85	The centroid of a triangle divides each median in the ratio	A. 2 : 1 B. 3 : 1 C. 3 : 2 D. 1 : 1
86	The point which divides the line segment joining the points (a, b) and (c, d) in the ratio 2 : 3 internally is	D. none of these
87	The point of concurrency of the medians of a triangle is called	A. incentre B. circumcentre C. e-centre D. centroid
88	The point of concurrency of the angle bisectors of a triangle is called	A. incentre B. circumcentre C. e-centre D. centroid
89	The point of concurrency of the right bisectors of the sides of a triangle is called	A. incentre B. circum center C. e-center D. centroid
90	If $A(x_1, y_1)$, $B(x_2, y_2)$ and $C(x_3, y_3)$ are the vertices of a triangle then its centroid is	
91	Question Image	
92	Question Image	
93	Question Image	D. none of these
94	Question Image	
95	The inclination of a line parallel to x-axis is	
96	The inclination of a line parallel to y-axis is	
97	Question Image	
98	Question Image	A. 0 B. 1
99	Question Image	A. 0 B. 1
100	Question Image	A. 0 B. 1
101	Question Image	A. 0 B. 1

		D. 1
102	Question Image	A. 0 B. 1 D. undefined
103	The slope of x-axis is	A. 0 B. undefined C. 1
104	The slope of y-axis is	A. 0 B. undefined C. 1
105	Question Image	A. 0 B. 1 C. -1 D. undefined
106	Question Image	
107	Question Image	
108	Question Image	A. 1 B. 0 C. 5 D. 2
109	Question Image	A. 9 B. -9 C. 0 D. 1
110	Question Image	A. 0 D. undefined
111	If l, m, n are the d.c.'s of a line, then	A. $l^2 + m^2 + n^2 = 0$ B. $l^2 + m^2 + n^2 = 1$ C. $l + m + n = 1$ D. $l = m = n = 1$
112	The points (5, 2, 4), (6, -1, 2) and (8, -7, k) are collinear if k is equal to	A. -2 B. 2 C. 3 D. -1
113	The direction cosines of a line equally inclined with co-ordinate axes are	
114	The direction cosines of any normal to the xy-plane are	A. $\langle 1, 0, 0 \rangle$ B. $\langle 0, 1, 0 \rangle$ C. $\langle 1, 1, 0 \rangle$ D. $\langle 0, 0, 1 \rangle$
115	The distance of the points (3, 4, 5) from y-axis is	
116	Question Image	A. (3, 1, -2) B. (3, -2, 1) C. (2, -1, 3) D. (-1, -2, -3)
117	The st. lines whose direction cosines satisfy $al + bm + cn = 0$, $fmn + gnl + hlm = 0$ are perpendicular if	
118	The projections of a line segment on x, y, z axes are 12, 4, 3. The length and the direction cosines of the line segment are	
119	Question Image	A. 0 B. 2 C. $\frac{4}{3}$ D. $\frac{5}{3}$
120	The point which divides the line joining the points (2, 4, 5) and (3, 5, -4) in the ratio -2 : 3 lies on	A. ZOX plane B. XOY plane C. YOZ plane D. None of these
121	The distance of the plane $2x - 3y + 6z + 14 = 0$ from the origin is	A. 14 B. 2 C. -2 D. 11
122	The equation of the plane which bisects the line joining (2, 3, 4) and (6, 7, 8) is	A. $x + y + z - 15 = 0$ B. $x - y + z - 15 = 0$ C. $x - y - z - 15 = 0$ D. $x + y + z + 15 = 0$
123	The lines l_1 and l_2 intersect. The shortest distance between them is	A. Positive B. Negative C. — D. —

		C. Zero D. Infinity
124	The equations of the line thro' the point (2, 3, -5) and equally inclined to the axis are	
125	The points (5, 0, 2), (2, -6, 0), (4, -9, 6) and (7, -3, 8) are vertices of a	A. Square B. Rhombus C. Rectangle D. Parallelogram
126	The points (5, -4, 2), (4, -3, 1), (7, -6, 4), (8, -7, 5) are vertices of a	A. Square B. Parallelogram C. Rectangle D. Rhombus
127	Question Image	
128	Question Image	A. -10 B. 10/7 C. -10/7 D. -7/10
129	Question Image	A. Parallel to the plane B. At right angles to the plane C. Lies in the plane D. Meet the plane obliquely
130	The foot of perpendicular from (α, β, γ) only y-axis is	A. $(\alpha, 0, 0)$ B. $(0, \beta, 0)$ C. $(0, 0, \gamma)$ D. $(0, 0, 0)$
131	64. A point (x, y, z) moves parallel to xy plane. Which of the three variables x, y, z remain fixed?	A. z B. x C. y D. x and y
132	Question Image	
133	Question Image	
134	The intercepts of the plane $2x - 3y + 4z = 12$ on the co-ordinate axes are given by	A. 2, -3, 4 B. 6, -4, -3 C. 6, -4, 3 D. 3, -2, 1.5
135	Question Image	A. x-axis B. y-axis C. z-axis D. None of these
136	The equation of the sphere passing thro' (0, 0, 0), (a, 0, 0), (0, b, 0), (0, 0, c) is	A. $x^2 + y^2 + z^2 + 2ax + 2by + 2cz = 0$ B. $x^2 + y^2 + z^2 - 2ax - 2by - 2cz = 0$ C. $x^2 + y^2 + z^2 - ax - by - cz = 0$ D. $x^2 + y^2 + z^2 + ax + by + cz = 0$
137	The center of the sphere which passes thro' (a, 0, 0), (0, b, 0), (0, 0, c) and (0, 0, 0) is	
138	The equation of the sphere thro' the origin and making intercepts a, b, c on co-ordinate axes is	A. $x^2 + y^2 + z^2 + ax + by + cz = 0$ B. $x^2 + y^2 + z^2 + 2ax + 2by + 2cz = 0$ C. $x^2 + y^2 + z^2 + a + b + c = 0$ D. $x^2 + y^2 + z^2 - ax - by - cz = 0$