

## Mathematics ECAT Pre Engineering Online Test

Sr	Questions	Answers Choice
1	$f(x) = 3x^4 - 2x^2 + 7$ is:	A. an even function B. an odd function C. an even and implicit function D. neither even nor a odd
2	f(x) = x3-x/x2+1 is:	A. an even function     B. an odd function     C. an even and implicit function     D. neither even nor a odd
3	$\cos h^2 x + \sin h^2 x$	A. an even function B. an odd function C. an even and implicit function D. neither even nor a odd
4	$f(x) = x^3 is:$	A. an odd function B. an even function C. an implicit function D. a quadratic funtion
5	$f(x) = \sin x is$ :	A. an odd function B. an even function C. an implicit function D. an exponential function
6	A function f is said to be an even if f(-x) =	A. 0 B. 1 C. f(x) Df(x)
7	xy= 2 is:	A. a constant function     B. an identity function     C. an improper function     D. implicit function
8	A function of the form $p(x)/Q(x)$ is called:	A. Rational function B. Logarithmic function C. Exponential function D. Hyperbolic function
9	A function in which the variable appears as exponent is called:	A. An identity function     B. A logarithmic function     C. an exponential function     D. A rational function
10	Express the perimeter P of square as a function of its area A?	A. $P = 4\sqrt{A}$ B. $P = \sqrt{A}$ C. $P = 2A$ D. $P = \pi \sqrt{A}$
11	if $f(x) = x^3 - 3x^2 + 5x - 1$ , then $f(-\sqrt{2}) =$	A. 7+7√2 B. 3+3√2 C7-7√2 D3-3√2
12	If the function y=2x-3, what is the preimage of 11?	A. 11 B. 7 C. 5 D. 2
13	For $f(x) = x^2$ , what is the value of $f(a) + f(-a)$ in terms of a?	A. 3a2 B. 2a2 C. 2a D7a
14	For $f(x) = x^2 + px + 1$ , if $f(3) = 3$ then $P =$	A. 3/7 B2/5 C7/5 D7/3
15	The largest possible domain of the function: $y=\sqrt{(x\ )}$ is:	A. (0,∞) B. 12 C. (3, 12) D. (3,∞)

A y = f(x)   B, f(x) = 0   C, x = f(y)   D, f(y) = 0	16	What is range of the function g (x) = $ x-3 $ ?	A. [0,∞) B. (0,∞) C. (-∞,3] D. [0,∞)
The value of x which is unchanged by the mapping in the function defined by f; x2 x² + 5x - 5	17	If x is an image of y under the function f. This can be written as	B. $f(x) = 0$ C. $x = f(y)$
19       Every relation, which can be represented by a linear equation in two variables, represents a C. Function D. Graph       B. Cartesian product C. Function D. Graph         20       invented a symbolic way to write the statement "y is a function of x" as y f(x)       Leibniz B. Newton C. Euter D. None of these         21       If the domain of the function f: x□ 2x²+1 is {-1,2,3}, the range of the function is C. (-1,-2,-3) D. (33,-19)       A (3,2,5) B. (1,3,9) C. (-1,-2,-3) D. (33,-19)         22       The domain of the function xx²-4 is given by       A R B. R + 2 C. (-1,-2,-3) D. (33,-19)         23       The domain the function: f(x) = x² is given by       A R B. S and of all non-negative Real numbers C. Resup> 1√(sup) D. Real P. (-1,-2,-3) D. (-1,-2,-3,-3) D. (-1,-2,-3,-3) D. (-1,-2,-3,-3) D. (-1,-2,-3,-3) D. (-1,-2,-3,-3,-3) D. (-1,-2,-3,-3,-3,-3) D. (-1,-2,-3,-3,-3,-3,-3,-3,-3,-3,-3,-3,-3,-3,-3,	18		B. 5 C5
Invented a symbolic way to write the statement Ty is a function of x" as y= C. Euler D. None of these D. None	19	Every relation, which can be represented by a linear equation in two variables, represents a	B. Cartesian product C. Function
21 If the domain of the function f: x□ 2x³+ 1 is (-1,2,3), the range of the function is  2. (-1,-2,-3)  2. (-	20	invented a symbolic way to write the statement "y is a function of x" as y= $\overline{f(x)}$	B. Newton C. Euler
The domain of the function $x/x^2 - 4$ is given by $ \begin{array}{ll} B, R + 2 \\ C, (R - (x) + (x) + 2) D, R - 4 \end{array} $ The domain the function : $f(x) = x^2$ is given by $ \begin{array}{ll} A, R \\ B, Set of all non-negative Real numbers \\ C, R < sup > -1 < sup > D, None of these \end{array} $ In the function f: $A \cap B$ , the elements of a are called $ \begin{array}{ll} A & Inages \\ B, Pro-Images \\ D, Parameters \end{array} $ The domain of $y = \sqrt{(x^2 - 9)}$ is $ \begin{array}{ll} A, R \\ B, (0, +\infty) \\ C, (-\infty, -3) \cup (3, +\infty) D, (0, -\infty) \end{array} $ $ \begin{array}{ll} C, (-\infty, -3) \cup (3, +\infty) D, (0, -\infty) D, (0, -\infty) \end{array} $ $ \begin{array}{ll} C, y \text{ is independent on a variable x in such a way that each value of x determines} \\ exactly one value of y, then we say that $ $ \begin{array}{ll} A, x \text{ is function of y} \\ B, y \text{ is a function of y} \\ C, y \text{ is independent variable} \\ D, x \text{ is real valued function} \end{array} $ $ \begin{array}{ll} A, x \text{ is function of y} \\ B, y \text{ is a function of y} \\ C, y \text{ is independent variable} \\ D, x \text{ is real valued function} $ $ \begin{array}{ll} A, A \cap B \\ B, f \cap B \rightarrow A \\ C, f \rightarrow A \cap B \\ D, f \rightarrow A \rightarrow B \end{array} $ $ \begin{array}{ll} A, A \cap B \\ B, f \cap B \rightarrow A \\ C, f \rightarrow A \cap B \end{array} $ $ \begin{array}{ll} A, A \cap B, B, f \cap B \rightarrow A \\ C, f \rightarrow A \cap B, B, f \cap B \rightarrow A \end{array} $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A \\ C, f \rightarrow A \cap B, B, f \cap B \rightarrow A \end{array} $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A \end{array} $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A \end{array} $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A \end{array} $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A \end{array} $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A \end{array} $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A \end{array} $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A $ $ \begin{array}{ll} C, f \rightarrow A \cap B, B, f \cap B \rightarrow A $ $ C, f \rightarrow A \cap B, B, f \cap B \rightarrow A $ $ C, f \rightarrow A \cap B, B, f \cap B \rightarrow A $ $ C, f \rightarrow A \cap B, B, f \cap B \rightarrow A $ $ C, f \rightarrow A \cap B $ $ A \cap B \cap B \rightarrow A $ $ C, f \rightarrow A \cap B $ $ A \cap B \cap B \rightarrow A $ $ C, f \rightarrow A \cap B $ $ A \cap B \cap B \rightarrow A $ $ C, f \rightarrow A \cap B $ $ A \cap B \cap B \rightarrow A $ $ C, f \rightarrow A \cap B $ $ A \cap B \cap B \rightarrow A $ $ C, f \rightarrow A \cap B $ $ C, $	21	If the domain of the function f: $x = 2x^3 + 1$ is $\{-1,2,3\}$ , the range of the function is	B. {1,3,9} C. {-1,-2,-3}
The domain the function : f(x) = x² is given by  B. Set of all non-negative Real numbers C. R-sup>-1-d/sup> D. None of these  24 In the function f: A□B, the elements of a are called  B. Pre-images B. Pre-images C. ranges D. Parameters  25 The domain of y = √(x²2-9) is  B. (0, +∞) D. (0, -∞) D.	22	The domain of the function $x/x^2$ -4 is given by	B. R + 2 C. [R - ( <u>+</u> 2)
24 In the function f: A□B, the elements of a are called  25 The domain of y = √(x²2-9) is  26 If a variable y dependents on a variable x in such a way that each value of x determines exactly one value of y, then we say that  27 A function from A to B is denoted by  28 if the value of the sphere, v = 4/3πr²- then the which of the following statement is true?  29 The locus of the centre of a circle which touches two given circles externally is:  A a parabola  A n ellipse slides between two lines at right angles to one another. The locus of its centre is:  A R B, (0, +∞) B, (1, +∞) C, (-∞, -3 ) U (3, +∞) D, (3, +∞) D, (4, -∞) D, (5, -∞) D, (6, -∞) D, (7, -∞) D, (7, -∞) D, (8, -∞) D, (1, -∞) D, (2, -∞) D, (3, +∞) D, (4, -∞) D, (4	23	The domain the function : $f(x) = x^2$ is given by	B. Set of all non-negative Real numbers C. R <sup>-1</sup>
The domain of y = √(x*2-9) is  B. (0, +∞) C. (-∞, -3) U (3, +∞) D. (0, ∞)  26  If a variable y dependents on a variable x in such a way that each value of x determines exactly one value of y, then we say that  A function from A to B is denoted by  A function from A to B is denoted by  A function from A to B is denoted by  A r is the function of v B. y is a function of x C. y is independent variable D. x is real valued function  A f. A → B B. f. B → A C. f. → A ⋅ B D. f. → A → B  A r is the function of v B. v is the function of r C. π is independent variable D. None of these  29  The locus of the centre of a circle which touches two given circles externally is:  A a hyperbola B. an ellipse C. a circle D. a parabola B. an ellipse C. a circle	24	In the function f: A□B, the elements of a are called	B. Pre-images C. ranges
26 If a variable y dependents on a variable x in such a way that each value of x determines exactly one value of y, then we say that  27 A function from A to B is denoted by  28 If the value of the sphere, v =4/3πr², then the which of the following statement is true?  29 The locus of the centre of a circle which touches two given circles externally is:  20 An ellipse slides between two lines at right angles to one another. The locus of its centre is:  28 A function of x B. y is a function of x B. f. B → A C. f. → A · B D. f. → A → B  29 A. a hyperbola B. an ellipse C. a circle D. a parabola  30 An ellipse slides between two lines at right angles to one another. The locus of its centre is:  30 A. a parabola B. an ellipse C. a circle	25	The domain of $y = \sqrt{(x''2-9)}$ is	B. $(0, +\infty)$ C. $(-\infty, -3) \cup (3, +\infty)$
27 A function from A to B is denoted by  28 if the value of the sphere, v =4/3πr², then the which of the following statement is true?  29 The locus of the centre of a circle which touches two given circles externally is:  A. r is the function of v B. v is the function ofπ C. π is independent variable D. None of these  A. a hyperbola B. an ellipse C. a circle D. a parabola  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 C. a circle D. a parabola	26		<ul><li>B. y is a function of x</li><li>C. y is independent variable</li></ul>
<ul> <li>28 if the value of the sphere, v =4/3πr², then the which of the following statement is true?</li> <li>B. v is the function ofπ C. π is independent variable D. None of these</li> <li>29 The locus of the centre of a circle which touches two given circles externally is:</li> <li>A. a hyperbola B. an ellipse C. a circle D. a parabola</li> <li>30 An ellipse slides between two lines at right angles to one another. The locus of its centre is:</li> <li>A. a parabola B. an ellipse C. a circle C. a circle C. a circle</li> </ul>	27	A function from A to B is denoted by	B. f: $B \rightarrow A$ C. f: $\rightarrow A$ :B
The locus of the centre of a circle which touches two given circles externally is:  B. an ellipse C. a circle D. a parabola  A. a parabola  A. a parabola  B. an ellipse C. a circle C. a circle C. a circle	28	if the value of the sphere, $v = 4/3\pi r^2$ , then the which of the following statement is true?	B. v is the function of $\pi$ C. $\pi$ is independent variable
An ellipse slides between two lines at right angles to one another. The locus of its centre is : B. an ellipse C. a circle	29	The locus of the centre of a circle which touches two given circles externally is:	B. an ellipse C. a circle
	30	An ellipse slides between two lines at right angles to one another. The locus of its centre is :	B. an ellipse C. a circle