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) D. -f(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. $7+7\sqrt{2}$ B. $3+3\sqrt{2}$ C. $-7-7\sqrt{2}$ D. $-3-3\sqrt{2}$
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) = x2, what is the value of f(a) +f (-a) in terms of a?	A. 3a2 B. 2a2 C. 2a D. -7a
14	For f(x) = x^2 + px +1, if f(3) = 3 then P =	A. 3/7 B. -2/5 C. -7/5 D. -7/3
15	The largest possible domain of the function: $y=\sqrt{(x)}$ is:	A. (0 ,∞) B. 12 C. (3 , 12) D. (3 ,∞)

16	What is range of the function g (x) =|x-3|?	A. [0 ,∞) B. (0 ,∞) C. (-∞ ,3] D. [0,∞)
17	If x is an image of y under the function f. This can be written as	A. y = f(x) B. f(x) = 0 C. x = f(y) D. f(y) =0
18	The value of x which is unchanged by the mapping in the function defined by f ; x□ x^2 + 5x -5 for x> 0 is	A. 1 B. 5 C. -5 D. -1
19	Every relation, which can be represented by a linear equation in two variables, represents a	A. Relation 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)	A. Leibniz B. Newton C. Euler D. None of these
21	If the domain of the function f: x□ $2x^3$+ 1 is {-1,2,3}, the range of the function is	A. {3,2,5} B. {1,3,9} C. {-1,-2,-3} D. {3,9,19}
22	The domain of the function x/x^2 -4 is given by	A. R B. R + 2 C. [R - (<u>+</u>2) D. R-4
23	The domain the function : f(x) = x^2 is given by	A. R B. Set of all non-negative Real numbers C. R⁻¹ D. None of these
24	In the function f: A□B, the elements of a are called	A. Images B. Pre-images C. ranges D. Parameters
25	The domain of y =√(x^2-9) is	A. R B. (0 , +∞) C. (-∞ , -3)∪ (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. x is function of y B. y is a function of x C. y is independent variable D. x is real valued function
27	A function from A to B is denoted by	A. f: A→ B B. f: B → A C. f: → A :B D. f → A→ B
28	if the value of the sphere, v =4/3πr^2, then the which of the following statement is true?	A. r is the function of v B. v is the function ofπ 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
30	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