

Mathematics ECAT Pre Engineering Online Test

Sr	Questions	Answers Choice
1	$p(x) = 2x^4 - 3x^3 + 2x - 1$ is polynomial of degree	A. 1 B. 2 C. 3 D. 4
2	Question Image	A. 0 B. -2 C. 1 D. 4
3	If $f(x) = x^3 - 2x^2 + 4x - 1$, then $f(-2) = ?$	A. 0 B. -25 C. 5 D. 45
4	Question Image	A. -2 B. -1 C. 1 D. 2
5	Question Image	A. One-one but not onto B. One-one and onto C. Onto but not one-one D. Neither one-one nor onto
6	Question Image	
7	Which of the following function form 1 to itself are bi-jective	A. $F(x) = x + 3$ B. $F(x) = x^{\sup{5}}$ C. $F(x) = 3x + 2$ D. $F(x) = x^{\sup{2}}$
8	π is the period of the function	A. $ \sin x + \sin x $ B. $\sin^4 x + \cos x$ C. $\sin(\sin x) + \sin(\cos x)$ D. None of these
9	The periods of the function $f(x) = x[x]$ is	A. 1 B. 2 C. Non periodic D. None of these
10	The period of the function $f(x) = \sin^4 x + \cos^4 x$ is	A. >π B. >π C. >π D. None of these
11	The period $\sin^2 \theta$ is	A. >π B. >π C. >π D. >π
12	Question Image	A. >π B. >π C. >π D. >π

		D. None of these
13	Question Image	A. One-to-one and onto B. One-to-one but not on to C. Onto but not one-to-one D. Neither one-to-one nor onto
14	Question Image	A. 2 B. 4 C. 8 D. 12
15	Question Image	A. $[0, 1[$ B. $[0, 1]$ C. $]0, 1[$ D. None of these
16	Question Image	
17	Question Image	
18	The number of points of intersection of two curves $y = 2 \sin x$ and $y = 5x^2 + 2x + 3$ is	A. 0 B. 1 C. 2 D. None of these
19	Question Image	A. 1 B. 2 C. 3 D. None of these
20	Question Image	
21	The general value of θ satisfying the equation $2 \sin^2 \theta - 3 \sin \theta - 2 = 0$ is	
22	Question Image	A. From an empty set B. 1 C. 2 D. ≥ 2
23	Question Image	A. 7 B. 5 C. 6 D. None of these
24	If $\sin(\pi \cos \theta) = \cos(\pi \sin \theta)$, then which of the following is correct?	
25	The solution of the equation $\cos^2 \theta + \sin \theta + 1 = 0$ lies in the interval	
26	One root of the equation $\cos x - x + 1/2 = 0$ lies in the interval	
27	General solution of $\tan 5\theta = \cot 2\theta$ is	
28	The smallest positive root of the equation $\tan x - x = 0$ lies on	
29	Question Image	A. A finite non-empty set B. Null set C. Both a and b D. None of these
30	The number of solution of the equation $\tan x + \sec x = 2 \cos x$ lying in the interval $[0, 2\pi]$ is	A. 0 B. 1 C. 2 D. 3