

NAT I Engineering Mathematics

Sr	Questions	Answers Choice
1	The general solution of the differential equation $dy/dx = \log x$ is	A. $Y = -x \log x - x + c$ B. $Y = x \log x + x^{2/2} + c$ C. $Y = x \log x - x + c$ D. $Y = 2x \log x + 2x + c$
2	In the triangle ΔABC , where C is the right angle $\tan A + \tan B =$	A. $A + B$ B. $C^{2/2} \cdot AB$ C. $A^{2/2} / BC$ D. $B^{2/2} / AC$
3	The average of first 100 integers is=	A. $50 \frac{1}{2}$ B. $25 \frac{1}{4}$ C. 100 D. 5050
4	The set (Q, \cdot)	A. Infinite set B. Singleton set C. Two points set D. None
5	How many different arrangements of the letters in the word QABABA are Possible?	A. 720 B. 40 C. 60 D. 30
6	The difference of two consecutive terms of an A.P is called	A. Zero B. One C. Four D. Infinite
7	A relation in which the equality is true only for some values of the unknown variable is called	A. An identity B. An equation C. A polynomial D. Inverse function
8	Which is not a half plane	A. $ax + by \leq c$ B. $ax + by \geq c$ C. Both A and B D. None
9	A fraction in which the degree of the numerator is less than the degree of the denominator is called	A. $1-i \cdot \sqrt{-3/2}$ B. $-1+i \cdot \sqrt{-3/2}$ C. $-1+i \cdot \sqrt{3/2}$ D. $1+i \cdot \sqrt{3/2}$
10	The complement of set A relative to universal set U is the set	A. X B. X C. ϕ D. Universal set
11	$\int \frac{1}{ax+b} dx =$	A. $\frac{1}{a} \log ax+b + c$ B. $\log ax+b + c$ C. $\frac{1}{b} \log ax+b + c$ D. $\frac{1}{x} \log ax+b + c$
12	If $Z = (1, 2)$. then $Z^{-1} = ?$	A. (0.2, 0.4) B. (-0.2, 0.4) C. (0.2, -0.4) D. (-0.2, -0.4)
13	If A and B are matrices such that $AB=BA=I$ then	A. A and B are multiplicative inverse of each other B. A and B are additive inverses of each other C. A and B are singular matrices D. A and B are equal
14	$\cos^{-1} x =$	A. $\sin^{-1} x$ B. $\sin^{-1} x$ C. $\frac{\pi}{2} - \sin^{-1} x$ D. $\frac{\pi}{2} + \sin^{-1} x$
15	If $f_1(x)$ and $f_2(x)$ are any two anti derivatives of a function $F(x)$ then the value of $f_1(x) - f_2(x) =$	A. A variable B. A constant C. Undefined

		D. Infinity
16	$\sin x + \cos x = 1$ $x =$	A. π B. $\pi/2$ C. $\pi/3$ D. $\pi/4$
17	What is the domain of $y = \sin^{-1} x$?	A. $-1 \leq x \leq 1$ B. $1 \leq x \leq 1$ C. $0 \leq x \leq \pi$ D. $-\pi/2 \leq x \leq \pi/2$
18	If $k_1 : k_2 = 1:1$ then the point P dividing the line is	A. Mid point B. Extreme left point C. Extreme Right point D. Lies outside k_1 and k_2
19	The number of real roots in cube roots of 8 is ?	A. $n \times m$ B. $m \times n$ C. $km \times n$ D. $m \times kn$
20	In the figure angle A is =	A. 15 B. 60 C. 90 D. 20