

## NAT I Engineering Mathematics

Sr	Questions	Answers Choice
1	$\tan(\pi + \tan^{-1} x) = ?$	<p>A. <math>\tan x</math>            B. <math>x</math>            C. <math>-x</math>            D. <math>\cot^{-1} x</math></p>
2	If $\sin \theta = 1$ then $\theta =$	<p>A. <math>2n\pi + \pi/2</math>            B. <math>2n\pi</math>            C. <math>2\pi + n</math>            D. <math>n\pi + \pi/2</math></p>
3	$\sin^{-1} x = ?$	<p>A. <math>\pi/2 - \sin^{-1} x</math>            B. <math>\pi/2 - \cos^{-1} x</math>            C. <math>-\sin^{-1} x</math>            D. <math>-\cos^{-1} x</math></p>
4	The angle $a$ ( $0^\circ < a < 180^\circ$ ) measured counterclockwise from positive x-axis to a non-horizontal straight line $l$ is called the	<p>A. Rotation            B. Inclination            C. Radian            D. None</p>
5	$3/2$ is	<p>A. An irrational number            B. Whole number            C. A positive integer            D. A rational number</p>
6	If $a$ and $b$ are any two distinct negative real numbers and $G = ab$ where A.G.H represent arithmetic geometric and harmonic means then	<p>A. 1            B. <math>\omega^2</math>            C. <math>\omega</math>            D. 0</p>
7	$\int \frac{1}{ax+b} dx =$	<p>A. <math>\frac{1}{a} \log  ax+b  + c</math>            B. <math>\log  ax+b  + c</math>            C. <math>\frac{1}{b} \log  ax+b  + c</math>            D. <math>\frac{1}{x} \log  ax+b  + c</math></p>
8	The radius of the circle $(x-1)^2 + (y+3)^2 = 64$ is	<p>A. 8            B. <math>2\sqrt{2}</math>            C. 4            D. 64</p>
9	Period of $\tan x/5$ is	<p>A. <math>5\pi</math>            B. <math>4\pi</math>            C. <math>2\pi</math>            D. <math>\pi/5</math></p>
10	If $i, m, n$ are the direction cosines of a vector $\vec{OP}$ then	<p>A. <math>i^2 + m^2 + n^2 = 0</math>            B. <math>i^2 + m^2 + n^2 = 1</math>            C. <math>i^2 + m^2 + n^2 = 1</math>            D. <math>i^2 + m^2 + n^2 = 0</math></p>
11	A die is thrown what is the probability that there is a prime number on the top?	<p>A. <math>1/2</math>            B. <math>1/3</math>            C. <math>1/6</math>            D. <math>2/3</math></p>
12	Graph of the equation $x^2 + y^2 = 4$ is	<p>A. a circle            B. an ellipse            C. a parabola            D. A square</p>
13	The statement that a group can have more than one identity elements is	<p>A. True            B. False            C. Fallacious            D. Some times true</p>
14	In the function $v = \frac{4}{3} \pi r^3$ $v$ is a function of	<p>A. <math>3/4</math>            B. <math>r</math>            C. -</p>

14	In the function $y = \frac{1}{2} \sin \pi x$ , $y$ is a function of	C. $\pi$ D. $\pi$
15	In the figure angle A is =	A. 15 B. 60 C. 90 D. 20
16	Partial fraction of $\frac{1}{x^3-1}$ will be of the form	A. Conjugate pair B. ordered pair C. reciprocal pair D. quadratic function
17	If the 9 <sup>th</sup> term of A.P is 8 and the 4 <sup>th</sup> term is 20. then the first term is	A. 1 B. 2 C. -2 D. -1
18	$\cos^{-1}(-x) =$ _____.	A. $\pi + \cos^{-1} x$ B. $\pi - \cos^{-1} x$ C. $\pi + \sin^{-1} x$ D. $\pi - \sin^{-1} x$
19	A function $F(x)$ is called even if	A. $F(x) = F(-x)$ B. $F(x) = F(-x)$ C. $F(x) = -F(x)$ D. $2F(x) = 0$
20	The set $\{1, -1, i, -i\}$ , form a group under	A. addition B. multiplication C. subtraction D. None