

NAT I General Science Mathematics

Sr	Questions	Answers Choice
1	If $\sin \theta = \cos \theta$ then $\theta =$	A. 30° B. 45° C. 60° D. 90°
2	The set of complex numbers forms a group under the binary operation of	A. 0 B. ± 1 C. 1 D. $\{0,1\}$
3	The complement of set A relative to universal set U is the set	A. X B. X C. ϕ D. Universal set
4	If the vector $2i+4j-2k$ and $2i+6j+xk$ are perpendicular then $x=$	A. 4 B. 8 C. 14 D. 7
5	The equation of the circle with center origin and radius $2\sqrt{2}$ is	A. $x^2+y^2 = 2\sqrt{2}$ B. x^2+y^2+8 C. x^2+y^2-8 D. x^2+y^2-8
6	For any set X, $X \cup X$ is	A. 15 B. $15i$ C. $-15i$ D. -15
7	If $Z_1 = \sqrt{-36}$, $Z_2 = \sqrt{-25}$, $Z_3 = \sqrt{-16}$, then what is the sum of Z_1 , Z_2 and Z_3 ?	A. $\sqrt{3}i$ B. $\sqrt{7}$ C. $-2-1$ D. $\sqrt{5}$
8	The line joining (1,3) to (a,b) has unit gradient then	A. $a-b = -2$ B. $a+b = 0$ C. $a-b = 5$ D. $2a + 3b = 1$
9	The nth term of A.P:1,5,9,15.....is given by	A. $4n - 3$ B. $4n + 1$ C. $3n - 4$ D. $4n + 3$
10	$\text{ArCot } \sqrt{3} = ?$	A. $\pi/2$ B. π C. 2π D. $\pi/6$
11	The sum of the ages of Nazish and his son is 56 years. Eight years ago. Nazish was 3 times as old as his son. How old is the son now?	A. $m = n$ B. $m \neq n$ C. $mn = 1$ D. $mn = 0$
12	The parametric equation of a curve are $x = t^2$, $y = t^2$ then	A. $dy/dx = 3t/2$ B. $dy/dx = t^5$ C. $dy/dx = 5t^4$ D. None
13	The total cost of 2 apples and 3 oranges is \$1.70, which of the following is true	A. The cost of one apple B. The cost of one orange C. Both have equal cost per item D. Cost of each single item can not be determined
14	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	A. 1 B. ω^2 C. ω D. 0

15	The line through the center and perpendicular to the transverse axis is called the	A. Major axis B. Minor axis C. Focal axis D. Conjugate axis
16	If you looking a high point from the ground then the angle formed is	A. Angle of elevation B. Angle of depression C. Right angle D. Horizon
17	$F(x) = xx$ decreases in the interval	A. $(0,e)$ B. $(0,1)$ C. $(-\infty,0)$ D. None
18	A die is thrown what is the probability that there is a prime number on the top?	A. $1/2$ B. $1/3$ C. $1/6$ D. $2/3$
19	An $m \times n$ matrix is said to be rectangular if	A. Forms a group w.r.t. addition B. Non commutative group w.r.t. multiplication C. Forms a group w.r.t. multiplication D. Doesn't form a group
20	What is the period of $\text{Cot } x$?	A. 2π B. π C. $\pi/2$ D. 4π