

NAT I General Science Mathematics

Sr	Questions	Answers Choice
1	The range of inequality $x + 2 > 4$ is	A. (-1,2) B. (-2,2) C. (1,∞) D. None
2	$F(x) = xx$ decreases in the interval	A. (0,e) B. (0,1) C. (-∞,0) D. None
3	If $\cos\alpha = 3/5$, $\cos\beta = 5/13$, then	A. $\cos(\alpha + \beta) = 33/65$ B. $\sin(\alpha + \beta) = 56/65$ C. $\sin^2(\alpha + \beta/2) = 1/65$ D. $\cos(\alpha + \beta) = 63/65$
4	Every prime number is also	A. Rational number B. even number C. Irrational number D. multiple of two numbers
5	$3/2$ is	A. An irrational number B. Whole number C. A positive integer D. A rational number
6	$d/dx [\cos x^2] =$ _____	A. $-2x \cos x^2$ B. $-2x \sin x^2$ C. $x^2 \sin x$ D. $-2x \sin x^2$
7	If the vector $2i+4j-2k$ and $2i +6j+xk$ are perpendicular then $x=$	A. 4 B. 8 C. 14 D. 7
8	If $x < y$, $2x = A$ and $2y = B$ then	A. $A = B$ B. $A < B$ C. $A > B$ D. $B < A$
9	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
10	The fifth term of the sequence $a_n = 3n - 2$ is	A. 3 B. -3 C. 13 D. -13
11	The set of all positive even integers is	A. Φ B. {1,2,3} C. { Φ } D. {0}
12	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
13	The two different parts of the hyperbola are called is	A. Vertices B. Directrices C. Nappes D. Branches
14	$\cos^{-1} x =$	A. $\sqrt{1-x^2}$ B. $\sqrt{1+x^2}$ C. $\sqrt{1-x^2} - 1$ D. $\sqrt{1+x^2} - 1$

15	Any point where f is neither increasing nor decreasing and $f(x) = 0$ at that point is called a	A. Minimum B. Maximum C. Stationary point D. Constant
16	In which quadrant is the solution of the equation $\sin x - 1 = 0$	A. II quadrants B. II and III quadrants C. III and IV quadrants D. I quadrant
17	$\sin^{-1} x = ?$	A. $\pi/2 - \sin^{-1} x$ B. $\pi/2 - \cos^{-1} x$ C. $-\sin^{-1} x$ D. $-\cos^{-1} x$
18	The length of rectangle is twice as much as its breadth. If the perimeter is 120 cm, the length of the rectangle is	A. Same as the original determinant B. Additive inverse of the original determinant C. Both A and B D. Adj of the original matrix
19	The Domain of $f(x) = \log x$ is	A. $[0, \infty]$ B. $(0, \infty)$ C. $[0, \infty[$ D. $[\infty, \infty]$
20	Find the geometric mean between 4 and 16	A. 7, 8 B. 14, 4 C. 28, 2 D. 56, 1