

NAT I General Science Mathematics

Sr	Questions	Answers Choice
1	$\int \frac{1}{ax+b} dx =$	<p>A. $\frac{1}{a} \log ax+b + c$ B. $\log ax+b + c$ C. $\frac{1}{b} \log ax+b + c$ D. $\frac{1}{x} \log ax+b + c$</p>
2	The number of ways in which 5 distinct toys can be distributed among 3 children is	<p>A. 3^5 B. 5^3 C. $5^3 \times 3^3$ D. $5^3 \times 3^3$</p>
3	If A and B are two events then $P(A \cup B) = ?$ (when A and B are disjoint)	<p>A. $P(A) - P(B)$ B. $P(A) \times P(B)$ C. $P(A) + P(B)$ D. $P(A) + P(B) - P(A \cap B)$</p>
4	Let A, B, and C be any sets such that $A \cup B = A \cup C$ and $A \cap B = A \cap C$ then	<p>A. $A \neq C$ B. $B = C$ C. $A = B$ D. $A \neq B$</p>
5	The value of x, and y, when $(x+iy)^2 = 5+4i$	<p>A. $X=2, y=-1$ B. $X=-2, y=1$ C. $X=2, y=-i$ D. $X=2, y=2$</p>
6	What is the domain of $y = \cot^{-1} x$?	<p>A. Set of irrational numbers only B. Set of all real numbers C. Set of integers only D. Set of complex numbers only</p>
7	What is the conjugate of $-7 - 2i$?	<p>A. $-7 + 2i$ B. $7 + 2i$ C. $7 - 2i$ D. $\sqrt{53}$</p>
8	The axis of the parabola $y^2 = 4ax$ is	<p>A. $x=0$ B. $Y=0$ C. $X=y$ D. $X=-y$</p>
9	If the 9 th term of A.P is 8 and the 4 th term is 20. then the first term is	<p>A. 1 B. 2 C. -2 D. -1</p>
10	The set of all positive even integers is	<p>A. Φ B. $\{1,2,3\}$ C. $\{\Phi\}$ D. $\{0\}$</p>
11	If θ is not an integral multiple of $\pi/2$ then $\cot^4 \theta + \cot^2 \theta = ?$	<p>A. $\operatorname{Cosec}^4 \theta - \operatorname{Cosec}^2 \theta$ B. $\tan^2 \theta - \tan^4 \theta$ C. $\operatorname{Cosec}^2 \theta + \operatorname{Cosec} \theta$ D. $\sin \theta \cos \theta$</p>
12	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>
13	Which of the following is solution of $\tan^2 x = 1/3$	<p>A. $7\pi/6$ B. $5\pi/6$ C. $\pi/6$ D. All</p>
14	Unit vector in the positive direction of x-axis is	<p>A. \hat{i} B. \hat{j} C. \hat{k} D. All</p>

15	Which is not a half plane	B. $ax + by > c$ C. Both A and B D. None
16	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. $mn = 0$
17	The perpendicular bisector of any chord of a circle	A. Passes through the center of the circle B. Does not pass through the center of the circle C. May or may not pass through the center of the circle D. None of these
18	Two natural numbers whose sum is 25 and difference is 5, are	A. 25, 20 B. 20, 10 C. 20, 5 D. 15, 10
19	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
20	In a school, there are 150 students. Out of these 80 students enrolled for mathematics class, 50 enrolled for English class, and 60 enrolled for Physics class. The student enrolled for English cannot attend any other class, but the students of mathematics and Physics can take two courses at a time. Find the number of students who have taken both physics and mathematics.	A. 40 B. 30 C. 50 D. 20