

## NAT I General Science Mathematics

Sr	Questions	Answers Choice
1	The curves $y = x^2$ , $y = x$ intersect at	A. (0,0) ,(1,1) B. (2,4) C. (0,),(2,4) D. (0,3),(-1,1)
2	$d/dx a^x$ is	A. $xa^{x-1}$ B. $a^{x-1}$ C. $x$ in $a$ D. $a^x$ in $a$
3	In the figure angle A is =	A. 15 B. 60 C. 90 D. 20
4	For which of the following ordered pairs (s,t) is $s + t > 0$ and $s - t < -3$ ?	A. (3,2) B. (2,3) C. (1,8) D. (0,3)
5	A function $F(x)$ is called even if	A. $F(x) = F(-x)$ B. $F(x) = F(-x)$ C. $F(x) = -F(x)$ D. $2F(x) = 0$
6	If $x < y$ , $2x = A$ and $2y = B$ then	A. $A = B$ B. $A < B$ C. $A > B$ D. $B < y$
7	The multiplicative inverse of $x$ such that $x = 0$ is	A. $-x$ B. does not exist C. $1/x$ D. 0
8	The set of the first elements of the ordered pairs forming a relation is called its	A. $-x$ B. does not exist C. $1/x$ D. 0
9	If $x^2 + y^2 = 4$ , Then $dy/dx =$	A. $2x + 2y$ B. $4 - x^2$ C. $-x/y$ D. $y/x$
10	Which of the following is not defined?	A. Arcsin $1/9$ B. ArcCos $(-4/3)$ C. Arctan $11/12$ D. Arccot $(-4)$
11	Write the first four term of the arithmetic sequence if $a_1 = 5$ and other three consecutive terms are 23,26,29	A. 18 years B. 36 years C. 8 years D. 16 years
12	Every prime number is also	A. Rational number B. even number C. Irrational number D. multiple of two numbers
13	$\cos^{-1} x =$	A. $\sqrt{1-x^2}$ B. $\sqrt{1+x^2}$ C. $\sqrt{1-x^2} - 1$ D. $\sqrt{1+x^2} - 1$
14	The set $(Q, \cdot)$	A. Infinite set B. Singleton set C. Two points set D. None
15	$2/(x+1)(x-1) = A/x+1 + B/x-1$ corresponds to	A. $\alpha = b/a$ and $\beta = ca$ B. $\alpha = a/b$ and $\beta = -c/a$ C. $\alpha = 2$ and $\beta = 2$ D. $\alpha = 1$ and $\beta = 1$

$$D. \alpha = -b/a \text{ and } \beta = c/a$$

16  $d/dx (\sqrt{x}) =$

- A.  $2\sqrt{x}$
- B.  $1/\sqrt{x}$
- C.  $1/2\sqrt{x}$
- D. None of these

17 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

18 The point (-5,3) is the center of a circle and P(7,-2) lies on the circle the radius of the circle is

- A. 2
- B.  $2\sqrt{5}$
- C. 7
- D. 8

19  $\int \cot (ax + b) dx =$

- A.  $1/a \log |\sin (ax + b)| + c$
- B.  $1/a \log |\cos ax + b|$
- C.  $1/b \log |\sin (ax + b)|$
- D.  $1/a \log |\sin (bx + a)|$

20  $d/dx [x^1 dx] =$  \_\_\_\_\_.

- A.  $1/4 x^{sup>4</sup>}$
- B.  $x^{sup>3</sup>}$
- C.  $3x^{sup>3</sup>}$
- D.  $x^{sup>4</sup>/4}$