NAT I General Science Mathematics

Sr	Questions	Answers Choice
1	If f_1 (x) and f_2 (x) are any two anti derivatives of a function F (x) then the value of f_1 (x) = f_2 (x)	A. A variable B. A constant C. Undefined D. Infinity
2	If the angle between two vectors with magnitude 8 and 2 is 60° then their scalar product is	A. 12 B. 8 C. 16 D. 1
3	The direction cosines of y-axis are	A. 1,0,0 B. 0,1,0 C. 0,0,1 D. 1,1,1
4	The sum of the interior angles for a 16 sided polygon is	A. 0 B. ω C. 1 D. 1 / ω
5	Unit vector in the positive direction of x-axis is	A. î B. ĵ C. k̂ D. All
6	Find the geometric mean between 4 and 16	A. 7, 8 B. 14, 4 C. 28, 2 D. 56, 1
7	How many different arrangements of the letters in the word QABABA are Possible?	A. 720 B. 40 C. 60 D. 30
8	The number of diagonals of a six sided figure are	A. 9 B. 6 C. 12 D. 3
9	2/(x+1)(x-1) = A/x+1 + B/x-1 corresponds to	A. α = b/a and β = ca B. α = a/b and β = -c/a C. α² + β² = 1 D. α = -b/a and β= c/a
10	x-1/(x+2)(x-2) =	A. 4/3(x-4) -1/3(x-1) B. 3/4(x+2) + 1/4(x-2) C. 2/3(x-2) - 4/3(x+2) D. 3/x - 2/x+1
11	∫1/ax +b dx =	A. 1/a log |ax + b| +c B. Log |ax + b| +c C. 1/b log |ax +b| +c D. 1/x log |ax + b| +c
12	The axis of the parabola $y^2 = 4ax$ is	A. x =0 B. Y =0 C. X = y D. X = -y
13	Graph of the equation $X^2 + y^2 = 4$ is	A. a circle B. an ellipse C. a parabola D. A square
14	If Cosα = 3/5, Cosβ = 5/13, then	A. Cos(α +β) =33/65 B. Sin(α +β) =56/65 C. sin²(α +β/2) =1/65 D. Cos(α +β) =63/65
15	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
16	√23 is	A. A rational number B. A irrational number C. An even integer D. A factor of 36
17	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
18	If A = $[a_{ij}]$ and b = $[b_{ij}]$ are the matrices of the order 3x3 then A-B=	A. Circle B. Ellipse C. Parabola D. Hexagon
19	The parametric equation of a curve are $x = t^2$, $y = t^2$ then	A. dy/dx =3t/2 B. dy/dx =t⁵ C. dy/dx =5t⁴ D. None
20	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