NAT I General Science Mathematics

Sr	Questions	Answers Choice
1	Derivative of strictly increasing function is always	A. Zero B. Positive C. Negative D. Both A and B
2	Sum of integers starting from to n is	A. n(n+1)/4 B. n(n+1)/6 C. n(n+1)/2 D. n(n-1)/2
3	The value of the polynomial $3x^3 + 4x^2 - 5x + 4$ at x = -1 is	A. A² + B² B. A² + B²+ 2AB C. A + B D. A² + B² + AB+BA
4	Which of the following is the solution of $Cot^2x = 1/\sqrt{3}$	A. π/5 B. π/3 C. π/7 D. π/9
5	Sin(a + b) + Sin(a- b) =	A. Sin a Cos b B. Sin a Sin b C. Sin a + Cos b D. Sin a - 2Cos b
6	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. √3 I B. √7 C. -2-1 D. √5
7	Period of Sin 2x =	A. π B. 4π C. 2nπ D. 2π
8	If $x^2 + y^2 = 4$, Then dy/dx =	A. 2x +2y B. 4 -x² C. -x/y D. y/x
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	If $f(x) = x^3 - 2x^2 + 4x - 1$, then f(-2) =?	A. 0 B. -25 C. 5 D. 45
11	Complex roots of real quadratic equation occur in	A. Nilpotent matrix B. Singular matrix C. Non singular matrix D. Diagonal matrix
12	If $k_1 : k_2 = 1:1$ then the point P dividing the line is	A. Mid point B. Extreme left point C. Extreme Right point D. Plies out side k₁ and k₂
13	AreCot √3 =?	A. π/2 B. π C. 2π D. π/6
14	One of the roots of the equation $2x^2 + 3x + n = 0$ is the reciprocal of the other, then n = ----------	A. Both A,B have the same number of columns B. Both A,B do not have the same order C. Number of col A is same as

		number of rows of B D. Number of rows of A is same as number of col of B
15	A relation in which the equality is true only for some values of the unknown variable is called	A. An identity B. An equation C. A polynomial D. Inverse function
16	There are 30 Red, 20 Green and some Blue bells in a bag if the probability of finding a Red ball is 1/3,how many are red balls in the bag	A. 120 B. 20 C. 40 D. 90
17	Partial fraction of $1/x^3-1$ will be of the form	A. Conjugate pair B. ordered pair C. reciprocal pair D. quadratic function
18	Sec^{-1} x=	A. Cos⁻¹ 1/x B. Cosec⁻¹ 1/x C. Cos-1 (-x) D. Tan⁻¹ x
19	∫sec (ax + b) tan(ax + b) dx=_____	A. sec(ax + b)/a B. sec² (ax + b)/2 C. sec(ax + b)/x D. 1/2
20	If the vector 2i+4j-2k and 2i +6j+xk are perpendicular then x-7	A. 4 B. 8 C. 14 D. 7