NAT I Computer Science Mathematics

Sr	Questions	Answers Choice
1	Which is not a half plane	A. ax + by < c B. ax + by > c C. Both A and B D. None
2	If $y = (ax)^m + b^m$, then dy/dx equals	A. m (ax) ^m x^{m-1} B. ma^m x^{m-1} C. m a^m x^{m-1} D. m a^m x^{m-2}
3	Period is Tan x/5 is	A. 5π B. 4π C. 2π D. π/5
4	$(x+2)^2 = x^2 +4x +4$ is	A. 1 B. 2 C. 3 D. 4
5	The gradient of the line joining (1,4) and (-2,5) is	A. 3/8 B. -2 2/3 C. -1/3 D. 2
6	Tan^{-1} 1/x =_____	A. Sin x B. Sec⁻¹ X C. Cot⁻¹ X D. Sin lx/cos- lx
7	What is the domain of y= Sin^{-1} x?	A. -1 ≤ x ≤1 B. 1 ≤ x ≤ 1 C. 0 ≤ x ≤ π D. -π/2 ≤ x ≤ π/2
8	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
9	If a and b are any two distinct negative real numbers and G-ab where A.G.H represent arithmetic geometric and harmonic means then	A. 1 B. ω² C. ω D. 0
10	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
11	Second derivative of $y = x^9 + 10x^2 + 2x - 1$ at x = 0 is	A. 10 B. 20 C. 12 D. 1
12	If A and B are matrices of same order than (A + B)(A + B)=	A. addition B. multiplication C. subtraction D. None
13	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
14	If f (x) = x/x^2- 4 then which is not included in the domain of f(x)	A. 0 B. -2 C. 1 D. 4

15	The area of circle of unit radius=	A. 0 B. 1 C. 4 D. π
16	If Z= (1,2). tjem Z^{-1} = ?	A. (0.2, 0.4) B. (-0.2, 0.4) C. (0.2, -0.4) D. (-0.2, -0.4)
17	The sum of the ages of Nazish and his son is 56 years. Eight years ago. Nazish was 3 time as old as his son. How old is the son now?	A. m = n B. m ≠ n C. mn = 1 D. mn = 0
18	If α and β be irrational roots of a quadratic equation, then	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
19	Which is in the solution set of 4x - 3y <2	A. (3,0) B. (4,1) C. (1,3) D. None
20	∫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