NAT I Engineering Mathematics

Sr	Questions	Answers Choice
1	A die is thrown what is the probability that there is a prime number on the top?	A. 1/2 B. 1/3 C. 1/6 D. 2/3
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	The number of diagonals of a six sided figure are	A. 9 B. 6 C. 12 D. 3
4	The area of circle of unit radius=	A. 0 B. 1 C. 4 D. π
5	If sinθ = 1 then θ =	A. 2nπ +π/2 B. 2nπ C. 2π +n D. Nπ +π/2
6	The center of a circle of radius 10 is on the origin which of the following points lies with in the circle	A. (10,0) B. (8,8) C. (8,4) D. (0,10)
7	The direction cosines of y-axis are	A. 1,0,0 B. 0,1,0 C. 0,0,1 D. 1,1,1
8	Two natural numbers whose sum is 25 and difference is 5, are	A. 25, 20 B. 20, 10 C. 20, 5 D. 15, 10
9	Which of the following is the subset of all sets ?	A. A ≠ C B. B = C C. A = B D. A ≠ B
10	The general solution of the differential equation dy/dx = log x is	A. Y = -x log x- x +c B. Y = x log x + x² C. Y = x log x -x +c D. Y= 2x log x + 2x +c
11	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
12	Cos 315° =	A. 0.707 B. 0.5 C. 1 D. 0
13	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
14	Which is an explicit function	A. y = x² +2x -1 B. x² +xy +y² =2

		C. xy² -y +9/xy =1 D. All are
15	Domain of Y = csc x is	A. R - nπ, n ε I B. R C. R -nπ/2,nεI D. All negative Integers
16	Sin^{-1} √3/2 =?	A. 2π/3 B. π/2 C. π/3 D. v/5
17	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
18	If ab > 0 and a < 0, which of the following is negative?	A. b B. -b C. -a D. (a - b)²
19	Given eight points in a plane no three of which are collinear how many lines do the points determine?	A. 16 B. 64 C. 28 D. 36
20	∫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