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	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
3	π/3 is	A. A positive integer B. A negative integer C. A natural number D. An irrational number
4	The value of x, and y, when $(x+iy)^2=5+4i$	A. X=2, y=-1 B. X=-2, y=1 C. X=2, y=-i D. X=2, y=2
5	x is a member of the set {-1,0,3,5} y is a member of the set {-2,1,2,4} which is possible?	A. x- y =-6 B. x -y < -6 C. x -y > 6 D. None
6	If sinθ = 1 then θ =	A. 2nπ +π/2 B. 2nπ C. 2π +n D. Nπ +π/2
7	The number of ways in which 5 distinct toys can be distributed among 3 children is	A. 3⁵ B. 5³ C. C⁵₃ D. P⁵₃
8	The curves $y = x^2$, y= x interest at	A. (0,0) ,(1,1) B. (2,4) C. (0,),(2,4) D. (0,3),(-1,1)
9	Given X, Y are any two sets such that number of elements in X=28, number of elements in set Y=28, and number of elements in set X∪Y=54, then number of elements in set X∩Y=	A. -7 + 2i B. 7 + 2i C. 7-2i D. √53
10	6 is	A. A prime integer B. An irrational number C. A rational number D. A odd integer
11	The circle $(x-2)^2 + (y+3)^2 = 4$ is not concentric with the circle	A. (x -2)² + (y + 3) ² =9 B. (x +2)² + (y - 3) ² =4 C. (x -2)² + (y + 3) ² =8 D. (x -2)² + (y + 3) ² =5
12	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)
13	Unit vector in the positive direction of x-axis is	A. $\hat{i}$ B. $\hat{j}$ C. $\hat{k}$ D. All
14	$\sin^{-1} x$ =?	A. π/2- Sin⁻¹ x B. π/2 -Cos⁻¹ x C. -Sin⁻¹ x D. -Cos⁻¹ x

15	d/dx ($3y^4$) =	A. 12y³ dy/dx B. 8y³ C. 8y³ dy/dx D. 12y³
16	If y = sin(ax + b) then fourth derivative of y with respect to x=	A. a⁴ cos (ax + b) B. a⁴ sin (ax + b) C. -a⁴ sin(ax +b) D. a4 tan (ax + b)
17	The associative angle of 280^o is	A. 100^o B. 10^o C. 80^o D. -80^o
18	If Cosθ =0, Then θ=	A. nπ/2 B. (2n + 1)π/2 C. (2n - 1)π/2 D. (n ±1)π/2
19	For which of the following ordered pairs (s,t) is s + t> and s- t < -3?	A. (3,2) B. (2,3) C. (1,8) D. (0,3)
20	If P(E) is the probability that can event will occur then P(E)=	A. 1 B. 0.5 C. 2 D. 0