NAT I General Science Mathematics

Sr	Questions	Answers Choice
1	$\tan^{-1} 1/x =$ _____	A. Sin x B. Sec⁻¹ X C. Cot⁻¹ X D. Sin lx/cos- lx
2	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
3	The perpendicular bisector of any chord of a circle	A. Passes through the center of the circle B. Does not pass through the center of the circle C. May or may not pass through the center of the circle D. None of these
4	In the triangle Δ ABC, where C is the right angle Tan A + Tan B=	A. A +B B. C² /AB C. A²/BC D. B²/AC
5	r + 3 > 5 then which is true	A. r + 2 > 4 B. r + 2 < 4 C. r + 2 + 4 D. None
6	Which is not included in the domain of $\cos^{-1} x$	A. 0 B. 1 C. -1 D. 2
7	How many different arrangements of the letters in the word QABABA are Possible?	A. 720 B. 40 C. 60 D. 30
8	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
9	Which of the following is the solution of $\cot^2 x = 1/\sqrt{3}$	A. π/5 B. π/3 C. π/7 D. π/9
10	The length of rectangle is twice as much as its breadth. If the perimeter is 120 cm, the length of the rectangle is	A. Same as the original determinant B. Additive inverse of the original determinant C. Both A and B D. Adj of the original matrix
11	The average of first 100 integers is=	A. 50 1/2 B. 25 1/4 C. 100 D. 5050
12	If θ= 60° then	A. sin θ = 1/2 B. tan θ = cot 30° C. θ = π/4 D. Sec θ =4
13	d/dx a^x is	A. xa^{x-1} B. a^x C. x in a D. a^x in a
14	If P(E) is the probability that can event will occur then P(E)=	A. 1 B. 0.5

	If P (E) is the probability that an event will occur then P (E)	C. 2 D. 0
15	$2/(x+1)(x-1) = A/x+1 + B/x-1$ corresponds to	A. $\alpha = b/a$ and $\beta = ca$ B. $\alpha = a/b$ and $\beta = -c/a$ C. $\alpha^2 + \beta^2 = 1$ D. $\alpha = -b/a$ and $\beta = c/a$
16	In a school, there are 150 students. Out of these 80 students enrolled for mathematics class, 50 enrolled for English class, and 60 enrolled for Physics class. The student enrolled for English cannot attend any other class, but the students of mathematics and Physics can take two courses at a time. Find the number of students who have taken both physics and mathematics.	A. 40 B. 30 C. 50 D. 20
17	The graph of a quadratic function is	A. Circle B. Ellipse C. Parabola D. Hexagon
18	If a rectangle has an area $81x^2$ and length of $27x$. then what is its width?	A. $3x$ B. $9x$ C. $3x^2$ D. $9x^2$
19	If $f(x) = x^3 - 2x^2 + 4x - 1$, then $f(-2) =$?	A. 0 B. -25 C. 5 D. 45
20	The set {1, -1, i, -i}, form a group under	A. addition B. multiplication C. subtraction D. None