NAT II Physical Science Mathematics

Sr	Questions	Answers Choice
1	The value of the polynomial $3x^3+ 4x^2- 5x + 4$ at x = -1 is	A. 12 B. 1 C. 10 D. -10
2	A standard deck of 52 cards is shuffled. What is the probability of choosing the queen of the diamonds	A. 1/5 B. 1/13 C. 5/52 D. 1/52
3	If A and B are two events, then P(AUB) = ? (when A and B are disjoint)	A. P(A) - P(B) B. P(A) x P(B) C. P(A)+P(B)
4	Question Image	
5	If the sum of the roots of the equation $ax^2- 2x + 2a = 0$ is equal to their product, then the value of a is	A. 1 B. 2 C. 3 D. 4
6	A fraction in which the degree of the numerator is less than the degree of the denominator is called	A. Polynomial B. Proper fraction C. Rational fraction D. Mixed fraction
7	How many elements are in the sample space of two rolling dies	A. 6 B. 12 C. 18 D. 36
8	Question Image	
9	Multiplicative inverse of "1" is	A. 0 B. <u>+</u> 1 C. 1 D. {0, 1}
10	Unit vector in the positive direction of x-axis is	D. All
11	Question Image	A. n = 3 only B. n <u>></u> 5 C. n <u>></u> 3 D. n < 5
12	Which of the following integrals can be evaluated	
13	Question Image	
14	A farmer possesses 100 hectometers of land and wants to grow corn and wheat. Cultivation of corn requires 3 hours per hectometer while cultivation of wheat requires 2 hours pert hectometer. Working hours cannot exceed 240. If he gets a profit of Rs. 20 per hectometer for corn and Rs. 20 per hectometer for wheat. The profit function for the farmer is	A. P(x,y) = 20x + 15y B. P(x,y) = 2x + 3y C. P(x,y) = x + y D. P(x,y) = 3x + 2y
15	Question Image	
16	Question Image	D. None of these
17	What is the domain of $y = Cot^{-1}x$?	A. Set of irrational number only B. Set of all real numbers C. Set of intergers only D. Set of complex numbers only
18	Question Image	A. An equation B. Linear equation C. Rational fraction D. Identity
19	Question Image	A. Nilpotent matrix B. Singular matrix C. Non singular matrix D. Diagonal matrix

20	If $0 < n < 1$, n is a rational number, the number of terms in the expansion of $(1 + X)^n$ are	A. n + 1 B. 2n C. Infinitely many D. 2n²