NTS Educators ESE (Science) Jobs Test

Sr	Questions	Answers Choice
1	The cube roots of unity ω = ----------	A. 1-i √-3 / 2 B. -1+i √-3 / 2i C. -1+i √3 / 2 D. 1+i √3 / 2
2	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
3	The degree of the polynomial $2x^4 + 3x^2 + 16x + 28 = x^4 + 2x^2$ is	A. [a_{ij -}b_{ji}] B. [a_{ij -}b_{ij}] C. [a_{ij -}b_{ij}] D. [a_{ij] - [}b_{ij}]
4	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
5	An m x n matrix is said to be rectangular if	A. Forms a group w.r.t. addition B. Non commutative group w.r.t. multiplication C. Forms a group w.r.t. multiplication D. Doesn't form a group
6	If the order of A is n x m. Then order of kA is	A. Forms a group B. Does not form a group C. Contains no additive identity D. Contains no additive inverse
7	If A and B are matrices such that AB=BA=I then	A. A and B are multiplicative inverse of each other B. A and B are additive inverses of each other C. A and B are singular matrices D. A and B are equal
8	If any two rows (or any two columns) of a square matrix are inter changed, the determinant of the resultant matrix is	A. True B. False C. Fallacious D. Some times true
9	In general matrices do not satisfy	A. Not a group B. A group w.r.t. subtraction C. A group w.r.t. division D. A group w.r.t. multiplication
10	If A and B are matrices of same order than (A + B)(A + B)=	A. addition B. multiplication C. subtraction D. None
11	If $\|A\| \neq 0$ then A is called	A. 1 B. -1 C. ±1 D. 0
12	Two matrices A and B are conformable for multiplication (AB) if and only if	A. Addition B. Multiplication C. Division D. Subtraction
13	If $A = [a_{ij}]$ and $b = [b_{ij}]$ are the matrices of the order 3x3 then A-B=	A. Circle B. Ellipse C. Parabola D. Hexagon

14	The set (Z, +) forms a group	A. Function on B B. Range C. Domain D. A into B
15	The set (Q, .)	A. Infinite set B. Singleton set C. Two points set D. None
16	The statement that a group can have more than one identity elements is	A. True B. False C. Fallacious D. Some times true
17	The set of all positive even integers is	A. Φ B. {1,2,3} C. {Φ} D. {0}
18	The set {1, -1, i, -i}, form a group under	A. addition B. multiplication C. subtraction D. None
19	The multiplicative inverse of -1 in the set {1-,1} is	A. 40 B. 30 C. 50 D. 20
20	The set of complex numbers forms a group under the binary operation of	A. 0 B. ±1 C. 1 D. {0,1}
21	The graph of a quadratic function is	A. Circle B. Ellipse C. Parabola D. Hexagon
22	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
23	The set { {a,b} } is	A. {X/X∈ A∧x ∈ U} B. {X/X∉ A∧x ∈ U} C. {X/X∈ A and x ∉ U} D. A-U
24	Which of the following is the subset of all sets ?	A. A ≠ C B. B = C C. A = B D. A ≠ B
25	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
26	Multiplicative inverse of "1" is	A. 4 B. 3 C. 2 D. 1
27	The multiplicative inverse of x such that x = 0 is	A. -x B. does not exist C. 1/x D. 0
28	The complement of set A relative to universal set U is the set	A. X B. X C. φ D. Universal set
29	Let A, B, and C be any sets such that A∪B=A∪C and A∩B=A∩C then	A. A ≠ C B. B = C C. A = B D. A ≠ B
30	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