NTS Educators ESE (Science) Jobs Test

Sr	Questions	Answers Choice
1	Find the geometric mean between 4 and 16	A. 7, 8 B. 14, 4 C. 28, 2 D. 56, 1
2	The common difference of the sequence 7,4,1.....is	A. 1 B. -3 C. 5 D. 0
3	Write the first four term of the arithmetic sequence if $a_1 = 5$ and other three consecutive terms are 23,26,29	A. 18 years B. 36 years C. 8 years D. 16 years
4	The difference of two consecutive terms of an A.P is called	A. Zero B. One C. Four D. Infinite
5	The sum of the interior angles for a 16 sided polygon is	A. 0 B. ω C. 1 D. 1 / ω
6	If a and b are any two distinct negative real numbers and G-ab where A.G.H represent arithmetic geometric and harmonic means then	A. 1 B. ω² C. ω D. 0
7	The sum of the series 1+5+9+13+17+21+25+29 is:	A. 10 cm B. 20 cm C. 30 cm D. 40 cm
8	The nth term in G.P 3,-6,12,..... is	A. 25, 20 B. 20, 10 C. 20, 5 D. 15, 10
9	If the 9^{th} tern of A.P is 8 and the 4^{th} term is 20. then the first term is	A. 1 B. 2 C. -2 D. -1
10	The nth term of A,P:1,5,9,15.....is given by	A. 4n - 3 B. 4n + 1 C. 3n -4 D. 4n +3
11	The equation of two polynomials P(x)/Q(x) where $Q(x) \neq 0$ with no common factor is called	A. 12 B. 1 C. 10 D. -10
12	Partial fraction of $1/x^3-1$ will be of the form	A. Conjugate pair B. ordered pair C. reciprocal pair D. quadratic function
13	A relation in which the equality is true only for some values of the unknown variable is called	A. An identity B. An equation C. A polynomial D. Inverse function
14	A fraction in which the degree of the numerator is less than the degree of the denominator is called	A. 1-i √-3 / 2 B. -1+i √-3 / 2i C. -1+i √3 / 2 D. 1+i √3 / 2
15	$1/x^2 -1$ = ? (in case of making partial fraction)	A. Ax +B/x² -1 B. A/x + B/ x- 1 C. A/ x+1 + B/x-1 D. None

16	$x^2 +2x -25 = 0$ is	A. 1 B. 2 C. 3 D. 4
17	$(x+2)^2 = x^2 +4x +4$ is	A. 1 B. 2 C. 3 D. 4
18	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
19	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
20	Which is a proper rational fraction	A. 3x - 7/x² +4 B. 2x² - 5/x² + 4 C. 3x⁴/2x² - 15 D. All are proper rational fraction
21	The two consecutive positive integers whose product is 56 are	A. 7, 8 B. 14, 4 C. 28, 2 D. 56, 1
22	The sum of the ages of Nazish and his son is 56 years. Eight years ago. Nazish was 3 time as old as his son. How old is the son now?	A. m = n B. m ≠ n C. mn = 1 D. mn = 0
23	The number of real roots in cube roots of 8 is ?	A. n x m B. m x n C. km x n D. m x kn
24	ω^n = ?, when n = 3k	A. 0 B. ω C. 1 D. 1 / ω
25	ω^{88} = ?	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
26	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
27	Two natural numbers whose sum is 25 and difference is 5, are	A. 25, 20 B. 20, 10 C. 20, 5 D. 15, 10
28	If the sum of the roots of $(a + 1)x^2 + (2a + 3)x + (3a + 4) = 0$ is -1, then product of the roots is	A. Commutative law w.r.t multiplication B. Associative law w.r.t addition C. Distributive law w.r.t addition D. Multiplication of a scalar with the matrix
29	The value of the polynomial $3x^3 + 4x^2 - 5x + 4$ at x = -1 is	A. A² + B² B. A² + B²+ 2AB C. A + B D. A² + B² + AB+BA
30	Complex roots of real quadratic equation occur in	A. Nilpotent matrix B. Singular matrix C. Non singular matrix D. Diagonal matrix