NAT I Engineering Mathematics

Sr	Questions	Answers Choice
1	If $y = (ax)^m + b^m$, then dy/dx equals	A. m (ax) ^m x^{m-1} B. ma^m x^{m-1} C. m a^m x^{m-1} D. m a^m x^{m-2}
2	Period of Sin 2x =	A. π B. 4π C. 2nπ D. 2π
3	A function F(x) is called even if	A. F(x) = F(-x) B. F(x) = F(-x) C. F(x) = -F(x) D. 2F(x) = 0
4	If a cone is cut by a plane perpendicular to the axis of the cone then the section is a	A. Parabola B. Circle C. Hyperbola D. Ellipse
5	The angle a (0° < a< 180°) measured counterclockwise from positive x-axis to a non-horizontal straight line / is called the	A. Rotation B. Inclination C. Radian D. None
6	A point of a solution region where two of its boundary lines intersect is called	A. Boundary B. Inequality C. Half plane D. Vertex
7	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
8	If 4 - x > 5, then	A. x > 1 B. x > -1 C. x < 1 D. x < -1
9	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
10	The line through the center and perpendicular to the transverse axis is called the	A. Major axis B. Minor axis C. Focal axis D. Conjugate axis
11	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)
12	120° degrees are equal to how many radians?	A. π/3 radians B. 2π/3 radians C. π/4 radians D. π/2 radians
13	The vertices of the ellipse $x^2 + 4y^2 = 16$ are	A. (±,4,0) B. (0,±,4) C. (± 2,0) D. (0,± 2)

14	The equation of the normal to the circle $x^2 + 2^2 = 25$ at (4,3) is	A. 3x -4y =0 B. 3x -4y= 5 C. 4x + 3y=5 D. 4x - 3y =25
15	Ab > 0 and a > 0 then	A. a > b B. a < b C. a = b D. None
16	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
17	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
18	r + 3 > 5 then which is true	A. r + 2 > 4 B. r + 2 < 4 C. r + 2 + 4 D. None
19	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}]
20	If Z= (1,2). tjem Z^{-1} = ?	A. (0.2, 0.4) B. (-0.2, 0.4) C. (0.2, -0.4) D. (-0.2, -0.4)