NAT I Engineering Mathematics

Sr	Questions	Answers Choice
1	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
2	The principal value of $\sin^{-1} [\sqrt{3}/2]$ is	A. $\pi/3$ B. $-\pi/3$ C. $2\pi/3$ D. $5\pi/3$
3	The common difference of the sequence 7,4,1......is	A. 1 B. -3 C. 5 D. 0
4	The multiplicative inverse of -1 in the set {1-,1} is	A. 40 B. 30 C. 50 D. 20
5	Which of the following is the equation of a line with slope 0 and passing through the point (4,3)	A. X =4 B. X = -4 C. Y = 3 D. Y = -6
6	In the figure PS is perpendicular to QR, if PQ = PR 26 and P8 = 24,then QR=	A. 10 B. 20 C. 40 D. 26
7	The set of complex numbers forms a group under the binary operation of	A. 0 B. ±1 C. 1 D. {0,1}
8	$\sin (2\pi - \theta) =$_____.	A. $\cos\theta$ B. $-\sin\theta$ C. $-\sin\theta$ D. $-\cos\theta$
9	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. $9x^2$
10	The range of inequality $x + 2 > 4$ is	A. (-1,2) B. (-2,2) C. $(1,\infty)$ D. None
11	$\tan (\pi + \tan^{-1} x) =?$	A. Tan x B. X C. -x D. $\cot^{-1} x$
12	If a line passes through origin then the equation of the line is	A. y = m/x B. y = mx C. x = my D. None
13	The value of $\cos (1/2 \cos^{-1} 1/2)$ is equal to	A. $\sqrt{3}/2$ B. -3/4 C. 1/16 D. 1/4
14	If you looking a high point from the ground then the angle formed is	A. Angle of elevation B. Angle of depression C. Right angle D. Horizon
15	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
16	$d/dx \int x^1 \, dx =$ _____.	A. $1/4 \, x^4$ B. X^3 C. $3x^3$ D. $x^4/4$
17	$\pi/3$ is	A. A positive integer B. A negative integer C. A natural number D. An irrational number
18	If Cosα = 3/5, Cosβ = 5/13, then	A. Cos(α +β) =33/65 B. Sin(α +β) =56/65 C. $\sin^2(\alpha +\beta/2)$ =1/65 D. Cos(α +β) =63/65
19	The value of the polynomial $3x^3 + 4x^2 - 5x + 4$ at x = -1 is	A. $A^2 + B^2$ B. A^2 + B^2 + 2AB C. A + B D. $A^2 + B^2$ + AB+BA
20	If $\sin^{-1} x + \cos^{-1} y = \pi$, then x and y are	A. Associative angles B. Complementary angles C. Reflex angles D. Supplementary angles