# NAT I General Science

| Sr | Questions | Answers Choice |
|---|---|---|
| 1 | $\cos^{-1}(-x) =$ _____. | A. $\pi + \cos^{-1} x$ <br> B. $\pi - \sin^{-1} x$ <br> C. $\pi + \sin^{-1} x$ <br> D. $\pi - \cos^{-1} x$ |
| 2 | If $\cos\alpha = 3/5$, $\cos\beta = 5/13$, then | A. $\cos(\alpha + \beta) = 33/65$ <br> B. $\sin(\alpha + \beta) = 56/65$ <br> C. $\sin^2(\alpha + \beta/2) = 1/65$ <br> D. $\cos(\alpha + \beta) = 63/65$ |
| 3 | 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) <br> B. (8,8) <br> C. (8,4) <br> D. (0,10) |
| 4 | The line through the center and perpendicular to the transverse axis is called the | A. Major axis <br> B. Minor axis <br> C. Focal axis <br> D. Conjugate axis |
| 5 | $\int 1/ax + b\ dx =$ | A. $1/a \log|ax + b| + c$ <br> B. $\log|ax + b| + c$ <br> C. $1/b \log|ax + b| + c$ <br> D. $1/x \log|ax + b| + c$ |
| 6 | $x - 1/(x+2)(x-2) =$ | A. $4/3(x-4) - 1/3(x-1)$ <br> B. $3/4(x+2) + 1/4(x-2)$ <br> C. $2/3(x-2) - 4/3(x+2)$ <br> D. $3/x - 2/x+1$ |
| 7 | For any set X, $X \cup X$ is | A. X <br> B. X <br> C. $\varphi$ <br> D. Universal set |
| 8 | If A and B are matrices of same order than $(A + B)(A + B) =$ | A. $A^2 + B^2$ <br> B. $A^2 + B^2 + 2AB$ <br> C. $A + B$ <br> D. $A^2 + B^2 + AB + BA$ |
| 9 | If $f_1(x)$ and $f_2(x)$ are any two anti derivatives of a function F(x) then the value of $f_1(x) = f_2(x)$ | A. A variable <br> B. A constant <br> C. Undefined <br> D. Infinity |
| 10 | An m x n matrix is said to be rectangular if | A. $m = n$ <br> B. $m \neq n$ <br> C. $mn = 1$ <br> D. $mn = 0$ |
| 11 | In the triangle $\Delta ABC$, where C is the right angle $\tan A + \tan B =$ | A. $A + B$ <br> B. $C^2/AB$ <br> C. $A^2/BC$ <br> D. $B^2/AC$ |
| 12 | If i,m,n are the direction cosines of a vector $\overline{OP}$ then | A. $l^2 + m^2 + n^2 = 0$ <br> B. $l^2 - m^2 + n^2 = 1$ <br> C. $l^2 + m^2 + n^2 = 1$ <br> D. $l^2 + m^2 - n^2 = 0$ |
| 13 | A function F(x) is called even if | A. $F(x) = F(-x)$ <br> B. $F(x) = F(-x)$ <br> C. $F(x) = -F(x)$ <br> D. $2F(x) = 0$ |

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| 14 | If $k_1 : k_2 = 1:1$ then the point P dividing the line is | A. Mid point<br>B. Extreme left point<br>C. Extreme Right point<br>D. Plies out side $k_1$ and $k_2$ |
| 15 | 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. A &lt;G &lt;H<br>B. A &gt; G&gt; H<br>C. A&lt; G &gt;H<br>D. A&gt; G&lt; H |
| 16 | If the diagonal of a square has coordinates (1,2) and(5,6) the length of a side is | A. 3<br>B. 4<br>C. 1<br>D. 5 |
| 17 | The value of x, and y, when $(x+iy)^2=5+4i$ | A. X=2, y=-1<br>B. X=-2, y=1<br>C. X=2, y=-i<br>D. X=2, y=2 |
| 18 | The area of circle of unit radius= | A. 0<br>B. 1<br>C. 4<br>D. $\pi$ |
| 19 | $x^2 +2x -25 = 0$ is | A. A polynomial<br>B. An inequality<br>C. An identity<br>D. A linear function |
| 20 | The radius of the circle $(x- 1)^2 + (y + 3)^2 =64$ is | A. 8<br>B. $2\sqrt{2}$<br>C. 4<br>D. 64 |