

NTS Educators ESE (Science) Jobs Test

Sr	Questions	Answers Choice
1	The parametric equation of a curve are $x = t^2$, $y = t^2$ then	A. $dy/dx = 3t/2$ B. $dy/dx = t^{5/2}$ C. $dy/dx = 5t^{4/2}$ D. None
2	In the function $V = \frac{4}{3}\pi r^3$, V is a function of	A. $\frac{3}{4}$ B. r C. v D. π
3	$F(x) = xx$ decreases in the interval	A. $(0,e)$ B. $(0,1)$ C. $(-\infty,0)$ D. None
4	The area of circle of unit radius=	A. 0 B. 1 C. 4 D. π
5	Domain of $Y = \csc x$ is	A. $R - n\pi, n \in I$ B. R C. $R - n\pi/2, n \in I$ D. All negative Integers
6	Graph of the equation $x^2 + y^2 = 4$ is	A. a circle B. an ellipse C. a parabola D. A square
7	The range of inequality $x + 2 > 4$ is	A. $(-1,2)$ B. $(-2,2)$ C. $(1,\infty)$ D. None
8	A function $F(x)$ is called even if	A. $F(x) = F(-x)$ B. $F(x) = F(-x)$ C. $F(x) = -F(x)$ D. $2F(x) = 0$
9	The Domain of $f(x) = \log x$ is	A. $[0, \infty]$ B. $(0, \infty)$ C. $[0, \infty[$ D. $[\infty, \infty]$
10	If $f(x) : A \rightarrow B$ and $g(x) : A \rightarrow B$ then $\text{Dom } [f(x) + g(x)]$ is	A. $\text{Dom } f(x) \cap \text{Dom } g(x)$ B. $\text{Dom } f(x) \cup \text{Dom } g(x)$ C. $[\text{Dom } f(x)]^{>2} - [\text{Dom } g(x)]^{>2}$ D. $[\text{Dom } g(x)]^{>2} - [\text{Dom } f(x)]^{>2}$
11	Which is an explicit function	A. $y = x^2 + 2x - 1$ B. $x^2 + 2 + xy + y^2 = 2$ C. $xy^2 - y + 9/xy = 1$ D. All are
12	Which is not included in the domain of $\cos^{-1} x$	A. 0 B. 1 C. -1 D. 2
13	$P(x) = 2x^4 - 3x^3 + 2x - 1$ is polynomial of degree	A. 1 B. 2 C. 3 D. 4
14	If $f(x) = x/x^2 - 4$ then which is not included in the domain of $f(x)$	A. 0 B. -2 C. 1 D. 4
		A. 0 B. -2 C. 1 D. 4

- 15 If $f(x) = x^3 - 2x^2 + 4x - 1$, then $f(-2) = ?$
B. -25
C. 5
D. 45
- 16 Which of the following is the solution of $\cot^2 x = 1/\sqrt{3}$
A. $\pi/5$
B. $\pi/3$
C. $\pi/7$
D. $\pi/9$
- 17 Which of the following is solution of $\tan^2 x = 1/3$
A. $7\pi/6$
B. $5\pi/6$
C. $\pi/6$
D. All
- 18 If x lies in $\{0, 2\pi\}$ and $\operatorname{cosec} x = 2$ then $x =$
A. $\pi/6$ and $5\pi/6$
B. $\pi + 2n\pi$
C. $n\pi$
D. $2\pi/3$ and $\pi/3$
- 19 If $1 + \cos x = 0$ then $x =$
A. $\pi + 2n\pi$
B. $\pi + n\pi$
C. $\pi - n\pi$
D. $\pi/2$
- 20 If $\theta = 60^\circ$ then
A. $\sin \theta = 1/2$
B. $\tan \theta = \cot 30^\circ$
C. $\theta = \pi/4$
D. $\sec \theta = 4$
- 21 In which quadrant is the solution of the equation $\sin x - 1 = 0$
A. II quadrants
B. II and III quadrants
C. III and IV quadrants
D. I quadrant
- 22 $\cos^{-1} x =$
A. $\Pi = \sin^{-1} x$
B. $\Pi + \sin^{-1} x$
C. $\Pi/2 - \sin^{-1} x$
D. $\Pi/2 + \sin^{-1} x$
- 23 $\sec^{-1} x =$
A. $\cos^{-1} x / x$
B. $\operatorname{cosec}^{-1} x / x$
C. $\cos^{-1} (-x)$
D. $\tan^{-1} x / x$
- 24 $\sin^{-1} (-x) =$
A. $\cos^{-1} x / x$
B. $-\sin^{-1} x$
C. $1/\sin^{-1} x$
D. $\sin^{-1} x / x$
- 25 $\tan^{-1} 1/x =$
A. $\sin x$
B. $\sec^{-1} x$
C. $\cot^{-1} x$
D. $\sin x / \cos x$
- 26 $\sin^{-1} [-1/2] =$
A. $\pi/3$
B. $-\pi/6$
C. $-\pi/3$
D. $\pi/6$
- 27 If $\cos \theta = 0$, Then $\theta =$
A. $n\pi/2$
B. $(2n + 1)\pi/2$
C. $(2n - 1)\pi/2$
D. $(n \pm 1)\pi/2$
- 28 In the figure angle A is =
A. 15
B. 60
C. 90
D. 20
- 29 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
- 30 Area of $\Delta ABC =$
A. $ab \sin \alpha$
B. $1/2 ab \sin \alpha$
C. $1/2 ac \sin \gamma$
D. $1/2 ac \sin \beta$