

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA ENGINEERING – SEMESTER –1(CtoD) New• EXAMINATION – SUMMER - 2023

Subject Code: C4300001**Date : 14-08-2023****Subject Name: Mathematics****Time: 10:30 AM TO 12:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of programmable & Communication aids are strictly prohibited.
5. Use of non-programmable scientific calculator is permitted.
6. English version is authentic.

No	Question Text and Option			
1	The value of $\begin{vmatrix} 3 & -8 \\ 2 & 0 \end{vmatrix}$			
	A.	-13	B.	19
	C.	-16	D.	16
1	$\begin{vmatrix} 3 & -8 \\ 2 & 0 \end{vmatrix}$ ની કિંમત			
	A.	-13	B.	19
	C.	-16	D.	16
2	If $f(x) = 5x^2 - 5x + 7$ then $f(3) = \underline{\hspace{1cm}}$			
	A.	$f(-2)$	B.	$f(-3)$
	C.	$f(2)$	D.	$f(1)$
2	જો $f(x) = 5x^2 - 5x + 7$ તો $f(3) = \underline{\hspace{1cm}}$			
	A.	$f(-2)$	B.	$f(-3)$
	C.	$f(2)$	D.	$f(1)$
3	$\log_a a = \underline{\hspace{1cm}}$			
	A.	0	B.	1
	C.	a	D.	None of these
3	$\log_a a = \underline{\hspace{1cm}}$			
	A.	0	B.	1
	C.	a	D.	એક પણ નહીં
4	$\log m - \log n = \underline{\hspace{1cm}}$			
	A.	$\log mn$	B.	$\log\left(\frac{m}{n}\right)$

	C.	$\log\left(\frac{n}{m}\right)$	D.	$\log(m-n)$
4	$\log m - \log n = \underline{\hspace{2cm}}$			
	A.	$\log mn$	B.	$\log\left(\frac{m}{n}\right)$
	C.	$\log\left(\frac{n}{m}\right)$	D.	$\log(m-n)$
5	If $f(x) = \log x$ then $f(x) + f(y) = \underline{\hspace{2cm}}$			
	A.	$f(x+y)$	B.	$f(x-y)$
	C.	$f(xy)$	D.	$f\left(\frac{x}{y}\right)$
5	$\text{જ} f(x) = \log x \text{ دل } f(x) + f(y) = \underline{\hspace{2cm}}$			
	A.	$f(x+y)$	B.	$f(x-y)$
	C.	$f(xy)$	D.	$f\left(\frac{x}{y}\right)$
6	If $\begin{vmatrix} 3x & 9 \\ 2 & 6 \end{vmatrix} = 0$ then $x = \underline{\hspace{2cm}}$			
	A.	2	B.	1
	C.	0	D.	-1
6	$\text{જ} \begin{vmatrix} 3x & 9 \\ 2 & 6 \end{vmatrix} = 0 \text{ دل } x = \underline{\hspace{2cm}}$			
	A.	2	B.	1
	C.	0	D.	-1
7	$\log x^4 = \underline{\hspace{2cm}}$			
	A.	$\log_4 x$	B.	$\log 4x$
	C.	$(\log x)^4$	D.	$4 \log x$
7	$\log x^4 = \underline{\hspace{2cm}}$			
	A.	$\log_4 x$	B.	$\log 4x$
	C.	$(\log x)^4$	D.	$4 \log x$
8	If $\log_e e^x$ then $f(0)$			
	A.	0	B.	1
	C.	2	D.	e
8	$\text{જ} \log_e e^x \text{ دل } f(0)$			
	A.	0	B.	1
	C.	2	D.	e
9	$\log_y x^3 \times \log_x y^2 = \underline{\hspace{2cm}}$			
	A.	3	B.	5
	C.	2	D.	6
9	$\log_y x^3 \times \log_x y^2 = \underline{\hspace{2cm}}$			
	A.	3	B.	5
	C.	2	D.	6
10	If $f(x) = x^2 - 3x + 1$ then $f(2) + f(3) = \underline{\hspace{2cm}}$			
	A.	1	B.	0
	C.	2	D.	-1
10	$\text{જ} f(x) = x^2 - 3x + 1 \text{ دل } f(2) + f(3) = \underline{\hspace{2cm}}$			
	A.	1	B.	0
	C.	2	D.	-1
11	If $f(x) = \log\left(\frac{x-1}{x}\right)$ then $f(-x) = \underline{\hspace{2cm}}$			
	A.	$\log\left(\frac{x-1}{x}\right)$	B.	$\log\left(\frac{x+1}{x}\right)$
	C.	$\log\left(\frac{x}{x+1}\right)$	D.	$\log\left(\frac{x}{x-1}\right)$

11	$\text{જો } f(x) = \log\left(\frac{x-1}{x}\right) \text{ તો } f(-x) = \underline{\hspace{2cm}}$			
	A.	$\log\left(\frac{x-1}{x}\right)$	B.	$\log\left(\frac{x+1}{x}\right)$
	C.	$\log\left(\frac{x}{x+1}\right)$	D.	$\log\left(\frac{x}{x-1}\right)$
12	If $\sqrt{\log_3 x} = 2$ then $x =$			
	A.	9	B.	81
	C.	$\sqrt{3}$	D.	6
12	$\text{જો } \sqrt{\log_3 x} = 2 \text{ તો } x =$			
	A.	9	B.	81
	C.	$\sqrt{3}$	D.	6
13	If $\log\left(\frac{a}{b}\right) + \log\left(\frac{b}{a}\right) = \log(a+b)$ then			
	A.	$a-b=1$	B.	$a+b=1$
	C.	$a=b$	D.	$a^2-b^2=1$
13	$\text{જો } \log\left(\frac{a}{b}\right) + \log\left(\frac{b}{a}\right) = \log(a+b) \text{ તો}$			
	A.	$a-b=1$	B.	$a+b=1$
	C.	$a=b$	D.	$a^2-b^2=1$
14	$\begin{vmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{vmatrix} = \underline{\hspace{2cm}}$			
	A.	$2\cos\theta$	B.	1
	C.	$2\sin\theta$	D.	0
14	$\begin{vmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{vmatrix} = \underline{\hspace{2cm}}$			
	A.	$2\cos\theta$	B.	1
	C.	$2\sin\theta$	D.	0
15	$\begin{vmatrix} x & -y \\ y & x \end{vmatrix} = \underline{\hspace{2cm}}$			
	A.	$2x+2y$	B.	x^2-y^2
	C.	x^2+y^2	D.	$(x+y)^2$
15	$\begin{vmatrix} x & -y \\ y & x \end{vmatrix} = \underline{\hspace{2cm}}$			
	A.	$2x+2y$	B.	x^2-y^2
	C.	x^2+y^2	D.	$(x+y)^2$
16	If $f(x) = \log_x 1$ then $f(100)$			
	A.	0	B.	1
	C.	100	D.	x
16	$\text{જો } f(x) = \log_x 1 \text{ તો } f(100)$			
	A.	0	B.	1
	C.	100	D.	x
17	$270^\circ = \underline{\hspace{2cm}}$ Radian			
	A.	$\frac{4\pi}{3}$	B.	$\frac{2\pi}{3}$
	C.	$\frac{3\pi}{2}$	D.	$\frac{\pi}{9}$
17	$270^\circ = \underline{\hspace{2cm}}$ રેડિયન			
	A.	$\frac{4\pi}{3}$	B.	$\frac{2\pi}{3}$
	C.	$\frac{3\pi}{2}$	D.	$\frac{\pi}{9}$
18	$\frac{2\pi}{9}$ Radian = $\underline{\hspace{2cm}}$ $^\circ$			

	A.	40	B.	80
	C.	20	D.	10
18	$\frac{2\pi}{9}$ રેડિયન = ____°			
	A.	40	B.	80
	C.	20	D.	10
19	Period of $\cos(3x + 5) =$ ____			
	A.	$\frac{\pi}{3}$	B.	$\frac{2\pi}{3}$
	C.	$\frac{\pi}{5}$	D.	$\frac{2\pi}{3}$
19	$\cos(3x + 5)$ નું મુખ્ય અવર્તમાન = ____			
	A.	$\frac{\pi}{3}$	B.	$\frac{2\pi}{3}$
	C.	$\frac{\pi}{5}$	D.	$\frac{2\pi}{3}$
20	Period of $\cos \frac{x}{6} =$ ____			
	A.	6π	B.	12π
	C.	8π	D.	$\frac{\pi}{6}$
20	$\cos \frac{x}{6}$ નું મુખ્ય અવર્તમાન = ____			
	A.	6π	B.	12π
	C.	8π	D.	$\frac{\pi}{6}$
21	$\sin\left(\frac{\pi}{2} - \theta\right) =$			
	A.	$-\cos\theta$	B.	$\cos\theta$
	C.	$\sin\theta$	D.	$-\sin\theta$
21	$\sin\left(\frac{\pi}{2} - \theta\right) =$			
	A.	$-\cos\theta$	B.	$\cos\theta$
	C.	$\sin\theta$	D.	$-\sin\theta$
22	$\sin 120^\circ =$ ____			
	A.	$2/\sqrt{3}$	B.	$\frac{1}{2}$
	C.	$\frac{\sqrt{3}}{2}$	D.	$-\frac{\sqrt{3}}{2}$
22	$\sin 120^\circ =$ ____			
	A.	$2/\sqrt{3}$	B.	$\frac{1}{2}$
	C.	$\frac{\sqrt{3}}{2}$	D.	$-\frac{\sqrt{3}}{2}$
23	$\sin(A + B) \cdot \sin(A - B) =$ ____			
	A.	$\sin^2 A - \cos^2 B$	B.	$\sin^2 A - \sin^2 B$
	C.	$\cos^2 A - \cos^2 B$	D.	$\cos^2 A - \sin^2 B$
23	$\sin(A + B) \cdot \sin(A - B) =$ ____			
	A.	$\sin^2 A - \cos^2 B$	B.	$\sin^2 A - \sin^2 B$
	C.	$\cos^2 A - \cos^2 B$	D.	$\cos^2 A - \sin^2 B$
24	$\sin 2x$			
	A.	$\frac{1 - \tan^2 x}{1 + \tan^2 x}$	B.	$\frac{2 \tan x}{1 + \tan^2 x}$
	C.	$\frac{1 + \tan^2 x}{1 - \tan^2 x}$	D.	$\frac{2 \tan x}{1 - \tan^2 x}$

24	$\sin 2x$			
	A.	$\frac{1 - \tan^2 x}{1 + \tan^2 x}$	B.	$\frac{2 \tan x}{1 + \tan^2 x}$
	C.	$\frac{1 + \tan^2 x}{1 - \tan^2 x}$	D.	$\frac{2 \tan x}{1 - \tan^2 x}$
25	$\sin 40^\circ + \sin 20^\circ$			
	A.	$\cos 10^\circ$	B.	$-\cos 10^\circ$
	C.	$\cos 20^\circ$	D.	$-\cos 20^\circ$
25	$\sin 40^\circ + \sin 20^\circ$			
	A.	$\cos 10^\circ$	B.	$-\cos 10^\circ$
	C.	$\cos 20^\circ$	D.	$-\cos 20^\circ$
26	If $\sin \theta = \frac{4}{5}$ then $\operatorname{cosec} \theta =$ ____			
	A.	$\frac{4}{5}$	B.	$\frac{5}{4}$
	C.	$\frac{3}{5}$	D.	$\frac{3}{4}$
26	જો $\sin \theta = \frac{4}{5}$ તો $\operatorname{cosec} \theta =$ ____			
	A.	$\frac{4}{5}$	B.	$\frac{5}{4}$
	C.	$\frac{3}{5}$	D.	$\frac{3}{4}$
27	If $\theta = \frac{7\pi}{4}$ then θ lies in ____ quadrant.			
	A.	First	B.	Second
	C.	Third	D.	Fourth
27	જો $\theta = \frac{7\pi}{4}$ તો θ ____ ચરણ માં છે.			
	A.	પ્રથમ	B.	દ્વિતીય
	C.	ત્રીતીય	D.	ચતુર્થ
28	$\sin 90^\circ \cdot \sin 60^\circ \cdot \sin 45^\circ \cdot \sin 0^\circ =$			
	A.	0	B.	1
	C.	-1	D.	$\frac{1}{2}$
28	$\sin 90^\circ \cdot \sin 60^\circ \cdot \sin 45^\circ \cdot \sin 0^\circ =$			
	A.	0	B.	1
	C.	-1	D.	$\frac{1}{2}$
29	$\tan^{-1}(\sqrt{3})$			
	A.	30°	B.	45°
	C.	60°	D.	120°
29	$\tan^{-1}(\sqrt{3})$			
	A.	30°	B.	45°
	C.	60°	D.	120°
30	If $f(x) = \cos x$ then, $f\left(\frac{\pi}{2} + x\right) =$ ____			
	A.	$\cos x$	B.	$\sin x$
	C.	$-\cos x$	D.	$-\sin x$
30	જો $f(x) = \cos x$ તો, $f\left(\frac{\pi}{2} + x\right) =$ ____			
	A.	$\cos x$	B.	$\sin x$
	C.	$-\cos x$	D.	$-\sin x$

31	$\bar{x} \times (2\bar{x}) = \underline{\hspace{2cm}}$			
	A.	$2 \bar{x} ^2$	B.	$2\bar{x}$
	C.	2	D.	$\bar{0}$
31	$\bar{x} \times (2\bar{x}) = \underline{\hspace{2cm}}$			
	A.	$2 \bar{x} ^2$	B.	$2\bar{x}$
	C.	2	D.	$\bar{0}$
32	If $ \bar{x} =2$ then $ -3\bar{x} =\underline{\hspace{2cm}}$			
	A.	6	B.	-6
	C.	12	D.	18
32	જો $ \bar{x} =2$ તો $ -3\bar{x} =\underline{\hspace{2cm}}$			
	A.	6	B.	-6
	C.	12	D.	18
33	$\bar{x} \times (\bar{x} - \bar{y}) = \underline{\hspace{2cm}}$			
	A.	$ \bar{x} ^2 - (\bar{x} \times \bar{y})$	B.	$\bar{x} \times \bar{y}$
	C.	$\bar{y} \times \bar{x}$	D.	$\bar{0}$
33	$\bar{x} \times (\bar{x} - \bar{y}) = \underline{\hspace{2cm}}$			
	A.	$ \bar{x} ^2 - (\bar{x} \times \bar{y})$	B.	$\bar{x} \times \bar{y}$
	C.	$\bar{y} \times \bar{x}$	D.	$\bar{0}$
34	If $\bar{x} \perp \bar{y}$ then $\bar{x} \cdot (\bar{x} + \bar{y}) = \underline{\hspace{2cm}}$			
	A.	$ \bar{x} ^2$	B.	0
	C.	$ \bar{x} $	D.	$ \bar{x} \bar{y} $
34	જો $\bar{x} \perp \bar{y}$ તો $\bar{x} \cdot (\bar{x} + \bar{y}) = \underline{\hspace{2cm}}$			
	A.	$ \bar{x} ^2$	B.	0
	C.	$ \bar{x} $	D.	$ \bar{x} \bar{y} $
35	$ 3\bar{i} + 4\bar{j} + 12\bar{k} = \underline{\hspace{2cm}}$			
	A.	$\sqrt{50}$	B.	12
	C.	13	D.	15
35	$ 3\bar{i} + 4\bar{j} + 12\bar{k} = \underline{\hspace{2cm}}$			
	A.	$\sqrt{50}$	B.	12
	C.	13	D.	15
36	$\bar{j} \times \bar{k}$			
	A.	$-\bar{i}$	B.	$\bar{i}$
	C.	$\bar{0}$	D.	1
36	$\bar{j} \times \bar{k}$			
	A.	$-\bar{i}$	B.	$\bar{i}$
	C.	$\bar{0}$	D.	1
37	If $(1, -2, 3) \cdot (4, 5, m) = 0$ then $m = \underline{\hspace{2cm}}$			
	A.	2	B.	-2
	C.	3	D.	0
37	જો $(1, -2, 3) \cdot (4, 5, m) = 0$ તો $m = \underline{\hspace{2cm}}$			
	A.	2	B.	-2
	C.	3	D.	0
38	$ \bar{x} ^2 =$			
	A.	$\bar{x} \times \bar{x}$	B.	$\bar{x} \cdot \bar{x}$
	C.	$\bar{x} + \bar{x}$	D.	$ \bar{x} \bar{x}$
38	$ \bar{x} ^2 =$			
	A.	$\bar{x} \times \bar{x}$	B.	$\bar{x} \cdot \bar{x}$
	C.	$\bar{x} + \bar{x}$	D.	$ \bar{x} \bar{x}$
39	If $ \bar{x} = 4$, then $\bar{x} \cdot (5\bar{x}) = \underline{\hspace{2cm}}$			

	A.	16	B.	25
	C.	20	D.	80
39	જો $ \vec{x} = 4$, તો $\vec{x} \cdot (5\vec{x}) = \underline{\hspace{2cm}}$			
	A.	16	B.	25
	C.	20	D.	80
40	$\vec{i} \cdot \vec{j} + \vec{j} \cdot \vec{k} + \vec{k} \cdot \vec{i} = \underline{\hspace{2cm}}$			
	A.	1	B.	3
	C.	0	D.	$\vec{i} + \vec{j} + \vec{k}$
40	$\vec{i} \cdot \vec{j} + \vec{j} \cdot \vec{k} + \vec{k} \cdot \vec{i} = \underline{\hspace{2cm}}$			
	A.	1	B.	3
	C.	1	D.	$\vec{i} + \vec{j} + \vec{k}$
41	For every vector $\vec{x} \neq \vec{0}$ then $\frac{\vec{x}}{ \vec{x} }$ is ____.			
	A.	Zero vector	B.	Scalar
	C.	Unit Vector	D.	Constant
41	R^2 ના પ્રત્યેક સદિશ $\vec{x} \neq \vec{0}$, માટે $\frac{\vec{x}}{ \vec{x} }$ એ ____ છે..			
	A.	શૂન્ય સદિશ	B.	અદિશ
	C.	એકમ સદિશ	D.	અચળ
42	$(\vec{i} \wedge \vec{j})$			
	A.	0	B.	$\frac{\pi}{2}$
	C.	π	D.	$\frac{\pi}{3}$
42	$(\vec{i} \wedge \vec{j})$			
	A.	0	B.	$\frac{\pi}{2}$
	C.	π	D.	$\frac{\pi}{3}$
43	_____ is a unit vector.			
	A.	$\begin{pmatrix} 3 & 4 \\ 5 & 5 \end{pmatrix}$	B.	$\begin{pmatrix} 1 & 1 \\ 2 & 2 \end{pmatrix}$
	C.	$\begin{pmatrix} 1 & 1 \\ 2 & \sqrt{2} \end{pmatrix}$	D.	$\begin{pmatrix} \sqrt{3} & 1 \\ 2 & \sqrt{2} \end{pmatrix}$
43	_____ એ એકમ સદિશ			
	A.	$\begin{pmatrix} 3 & 4 \\ 5 & 5 \end{pmatrix}$	B.	$\begin{pmatrix} 1 & 1 \\ 2 & 2 \end{pmatrix}$
	C.	$\begin{pmatrix} 1 & 1 \\ 2 & \sqrt{2} \end{pmatrix}$	D.	
44	If $\vec{x} \times \vec{y} = (1, -2, -5)$ then $\vec{y} \times (\vec{x} + \vec{y}) = \underline{\hspace{2cm}}$			
	A.	(-1, 2, 5)	B.	(-1, -2, -5)
	C.	(-5, -2, 1)	D.	(5, 2, -1)
44	જો $\vec{x} \times \vec{y} = (1, -2, -5)$ તો $\vec{y} \times (\vec{x} + \vec{y}) = \underline{\hspace{2cm}}$			
	A.	(-1, 2, 5)	B.	(-1, -2, -5)
	C.	(-5, -2, 1)	D.	(5, 2, -1)
45	The slope of the line making an angle of $\frac{\pi}{4}$ with positive X-axis.			
	A.	1	B.	$\frac{1}{\sqrt{3}}$
	C.	$\sqrt{3}$	D.	∞
45	X-અક્ષ ની ધન દિશા સાથે $\frac{\pi}{4}$ માપનો ખૂણો બનાવતી રેખા નો ઢાળ = _____			

	A.	1	B.	$\frac{1}{\sqrt{3}}$
	C.	$\sqrt{3}$	D.	∞
46	Angle between the two lines $x + y = 0$ and $x - y = 0$ is ____			
	A.	$\frac{\pi}{3}$	B.	$\frac{\pi}{6}$
	C.	0	D.	$\frac{\pi}{2}$
46	બે રેખાઓ $x + y = 0$ અને $x - y = 0$ વચ્ચે નો ખૂણો ____			
	A.	$\frac{\pi}{3}$	B.	$\frac{\pi}{6}$
	C.	0	D.	$\frac{\pi}{2}$
47	X- intercept of the line $3x + 5 = 0$ is ____			
	A.	$-\frac{5}{3}$	B.	$\frac{5}{3}$
	C.	$\frac{3}{5}$	D.	0
47	રેખા $3x + 5 = 0$ નો X- અંતઃખંડ ____			
	A.	$-\frac{5}{3}$	B.	$\frac{5}{3}$
	C.	$\frac{3}{5}$	D.	0
48	If (6,0) is the centre of the circle $x^2 + y^2 + 3px - 1 = 0$ then $p =$ ____			
	A.	4	B.	-4
	C.	2	D.	-2
48	જો (6,0) એ વર્તુળ $x^2 + y^2 + 3px - 1 = 0$ નું કેન્દ્ર હોય તો $p =$ ____			
	A.	4	B.	-4
	C.	2	D.	-2
49	Radius of the circle $x^2 + y^2 = 18$ is ____			
	A.	$2\sqrt{3}$	B.	$3\sqrt{2}$
	C.	$2\sqrt{2}$	D.	$3\sqrt{3}$
49	$x^2 + y^2 = 18$ ની ત્રિજ્યા			
	A.	$2\sqrt{3}$	B.	$3\sqrt{2}$
	C.	$2\sqrt{2}$	D.	$3\sqrt{3}$
50	The equation of the normal to the circle $x^2 + y^2 = 10$ at $(\sqrt{10}, 0)$ is ____			
	A.	$y = \sqrt{10}$	B.	$x = \sqrt{10}$
	C.	$y = 0$	D.	$y = -\sqrt{10}$
50	વર્તુળ $x^2 + y^2 = 10$ પરના બિંદુ $(\sqrt{10}, 0)$ આગળ અભીલંબ નું સમીકરણ ____			
	A.	$y = \sqrt{10}$	B.	$x = \sqrt{10}$
	C.	$y = 0$	D.	$y = -\sqrt{10}$
51	The equation of line which perpendicular to X-axis and passing through (5,0)			
	A.	$y = 0$	B.	$x = 5$
	C.	$x + y = 5$	D.	$x - y = 5$
51	X- અક્ષ ને લંબ અને (5,0) માંથી પસાર થતી રેખા નું સમીકરણ			
	A.	$y = 0$	B.	$x = 5$
	C.	$x + y = 5$	D.	$x - y = 5$
52	Slope of the line $y - 3 = 0$ is ____			
	A.	3	B.	0
	C.	-3	D.	$\frac{1}{3}$

52	રેખા $y - 3 = 0$ નો ઢાળ _____			
	A.	3	B.	0
	C.	-3	D.	$\frac{1}{3}$
53	Slope of the line $5x - y + 3 = 0$ is _____			
	A.	-5	B.	5
	C.	$\frac{1}{5}$	D.	$-\frac{1}{5}$
53	રેખા $5x - y + 3 = 0$ નો ઢાળ _____			
	A.	-5	B.	5
	C.	$\frac{1}{5}$	D.	$-\frac{1}{5}$
54	If m_1 and m_2 are slopes of two parallel lines then _____			
	A.	$m_1 m_2 = 1$	B.	$m_1 m_2 = -1$
	C.	$m_1 m_2 = 0$	D.	$m_1 = m_2$
54	જો m_1 અને m_2 ઢાળ વાળી રેખાઓ સમાંતર હોય તો _____			
	A.	$m_1 m_2 = 1$	B.	$m_1 m_2 = -1$
	C.	$m_1 m_2 = 0$	D.	$m_1 = m_2$
55	Angle formed by the line $x - 5 = 0$ with positive X-axis is _____			
	A.	$\frac{\pi}{6}$	B.	$\frac{\pi}{3}$
	C.	$\frac{\pi}{2}$	D.	0
55	રેખા $x - 5 = 0$ એ ધન X- અક્ષ સાથે બનાવેલો ખૂણો _____			
	A.	$\frac{\pi}{6}$	B.	$\frac{\pi}{3}$
	C.	$\frac{\pi}{2}$	D.	0
56	If the Y-intercept of the line $3x - 5y + k = 0$ is 2 then $k =$ _____			
	A.	6	B.	-6
	C.	10	D.	-10
56	જો રેખા $3x - 5y + k = 0$ નો Y- અંતઃખંડ 2 હોય તો $k =$ _____			
	A.	6	B.	-6
	C.	10	D.	-10
57	Centre of the circle $x^2 + y^2 - 4x + 7 = 0$ is _____			
	A.	(-2,0)	B.	(2,0)
	C.	(-4,0)	D.	(0,4)
57	વર્તુળ $x^2 + y^2 - 4x + 7 = 0$ નું કેન્દ્ર _____			
	A.	(-2,0)	B.	(2,0)
	C.	(-4,0)	D.	(0,4)
58	Equation of the tangent of circle $x^2 + y^2 = 13$ at the point (2,3)			
	A.	$2x - 3y = 13$	B.	$3x - 2y = 13$
	C.	$2x + 3y = 0$	D.	$2x + 3y = 13$
58	બિંદુ (2,3) આગળ વર્તુળ $x^2 + y^2 = 13$ ના સ્પર્શક નું સમીકરણ= _____			
	A.	$2x - 3y = 13$	B.	$3x - 2y = 13$
	C.	$2x + 3y = 0$	D.	$2x + 3y = 13$
59	$\lim_{x \rightarrow 2} \frac{x^2 - 1}{x - 1} =$ _____			
	A.	3	B.	$\frac{1}{3}$
	C.	2	D.	1
59	$\lim_{x \rightarrow 2} \frac{x^2 - 1}{x - 1} =$ _____			

	A.	3	B.	$\frac{1}{3}$
	C.	2	D.	1
60	$\lim_{x \rightarrow 0} \frac{5^x - 1}{x} = \underline{\hspace{2cm}}$			
	A.	$\log_5 e$	B.	$\log_e 5$
	C.	1	D.	0
60	$\lim_{x \rightarrow 0} \frac{5^x - 1}{x} = \underline{\hspace{2cm}}$			
	A.	$\log_5 e$	B.	$\log_e 5$
	C.	1	D.	0
61	$\lim_{\theta \rightarrow 0} \frac{\sin m\theta}{\theta} = \underline{\hspace{2cm}}$			
	A.	0	B.	m
	C.	1	D.	θ
61	$\lim_{\theta \rightarrow 0} \frac{\sin m\theta}{\theta} = \underline{\hspace{2cm}}$			
	A.	0	B.	m
	C.	1	D.	θ
62	$\lim_{x \rightarrow 0} (\sec^2 x - \tan^2 x) = \underline{\hspace{2cm}}$			
	A.	-1	B.	0
	C.	1	D.	5
62	$\lim_{x \rightarrow 0} (\sec^2 x - \tan^2 x) = \underline{\hspace{2cm}}$			
	A.	-1	B.	0
	C.	1	D.	5
63	$\lim_{x \rightarrow 0} \frac{e^x - 1}{x} = \underline{\hspace{2cm}}$			
	A.	e	B.	1
	C.	-1	D.	0
63	$\lim_{x \rightarrow 0} \frac{e^x - 1}{x} = \underline{\hspace{2cm}}$			
	A.	e	B.	1
	C.	-1	D.	0
64	$\lim_{n \rightarrow \infty} \left(1 + \frac{1}{n}\right)^n = \underline{\hspace{2cm}}$			
	A.	e	B.	0
	C.	1	D.	-1
64	$\lim_{n \rightarrow \infty} \left(1 + \frac{1}{n}\right)^n = \underline{\hspace{2cm}}$			
	A.	e	B.	0
	C.	1	D.	-1
65	$\lim_{\theta \rightarrow 0} \frac{\tan \theta}{\theta} = \underline{\hspace{2cm}}$			
	A.	-1	B.	0
	C.	1	D.	∞
65	$\lim_{\theta \rightarrow 0} \frac{\tan \theta}{\theta} = \underline{\hspace{2cm}}$			
	A.	-1	B.	0
	C.	1	D.	∞
66	$\lim_{x \rightarrow 2} \frac{x^4 - 16}{x - 2} = \underline{\hspace{2cm}}$			
	A.	14	B.	12
	C.	32	D.	None of these

66	$\lim_{x \rightarrow 2} \frac{x^4 - 16}{x - 2}$			
	A.	14	B.	12
	C.	32	D.	એક પણ નહીં
67	$\lim_{\theta \rightarrow 0} \frac{\tan 3\theta}{4\theta} = \text{---}$			
	A.	$\frac{3}{4}$	B.	$\frac{4}{3}$
	C.	12	D.	$\frac{1}{12}$
67	$\lim_{\theta \rightarrow 0} \frac{\tan 3\theta}{4\theta} = \text{---}$			
	A.	$\frac{3}{4}$	B.	$\frac{4}{3}$
	C.	12	D.	$\frac{1}{12}$
68	$\lim_{x \rightarrow 1} \frac{x^2 + x + 1}{x + 1} = \text{---}$			
	A.	$\frac{3}{2}$	B.	1
	C.	3	D.	$\frac{2}{3}$
68	$\lim_{x \rightarrow 1} \frac{x^2 + x + 1}{x + 1} = \text{---}$			
	A.	$\frac{3}{2}$	B.	1
	C.	3	D.	$\frac{2}{3}$
69	$\lim_{x \rightarrow 0} \frac{e^{3x} - 1}{x} = \text{---}$			
	A.	1	B.	3
	C.	$\frac{1}{3}$	D.	None of these
69	$\lim_{x \rightarrow 0} \frac{e^{3x} - 1}{x} = \text{---}$			
	A.	1	B.	3
	C.	$\frac{1}{3}$	D.	એક પણ નહીં
70	$\lim_{x \rightarrow 2} \frac{x^2 - 4}{x - 2} = \text{---}$			
	A.	-4	B.	4
	C.	1	D.	0
70	$\lim_{x \rightarrow 2} \frac{x^2 - 4}{x - 2} = \text{---}$			
	A.	-4	B.	4
	C.	1	D.	0