

GUJARAT TECHNOLOGICAL UNIVERSITY**Diploma Engineering – SEMESTER – 2(CtoD) – EXAMINATION – Summer-2024****Subject Code: C320003****Date: 20-06-2024****Subject Name: Advanced Mathematics(Group-2)****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.
7. Use only OMR to answer this question paper.

No.	Question Text and Option. પ્રશ્ન અને વિકલ્પો.			
1.	If A (2,3) and B (4,5) then AB = _____			
	A.	2	B.	$2\sqrt{2}$
	C.	$\sqrt{3}$	D.	$\sqrt{2}$
૧.	જો A (2,3) અને B (4,5) હોય તો AB = _____			
	A.	2	B.	$2\sqrt{2}$
	C.	$\sqrt{3}$	D.	$\sqrt{2}$
2.	If two lines having slopes m_1 and m_2 respectively are perpendicular then _____.			
	A.	$m_1 m_2 = -1$	B.	$m_1 m_2 = 1$
	C.	$m_1 = -m_2$	D.	$m_1 = m_2$
૨.	જો બે લંબ રેખાઓ જેમનો ઢાળ અનુક્રમે m_1 અને m_2 હોય તો _____.			
	A.	$m_1 m_2 = -1$	B.	$m_1 m_2 = 1$
	C.	$m_1 = -m_2$	D.	$m_1 = m_2$
3.	If equation of a circle is $x^2 + y^2 - 2x + 4y + 4 = 0$ then radius is _____.			
	A.	4	B.	2
	C.	0	D.	1
૩.	જો વર્તુળનું સમીકરણ $x^2 + y^2 - 2x + 4y + 4 = 0$ હોય તો ત્રિજ્યા = _____.			
	A.	4	B.	2
	C.	0	D.	1
4.	Slope of the line $4x - 2y = 3$ is _____.			
	A.	4	B.	-2
	C.	2	D.	3
૪.	રેખા $4x - 2y = 3$ નો ઢાળ = _____.			
	A.	4	B.	-2
	C.	2	D.	3
5.	Equation of a circle with centre (1, 0) and radius 1 is _____.			
	A.	$x^2 + y^2 = 1$	B.	$x^2 - 2x + y^2 = 0$
	C.	$x^2 - 2x + y^2 = 1$	D.	$x^2 + 2x + y^2 = 0$
૫.	કેન્દ્ર (1, 0) અને ત્રિજ્યા 1 હોય તેવા વર્તુળનું સમીકરણ _____ છે.			
	A.	$x^2 + y^2 = 1$	B.	$x^2 - 2x + y^2 = 0$
	C.	$x^2 - 2x + y^2 = 1$	D.	$x^2 + 2x + y^2 = 0$
6.	Slope of a straight line which is parallel to X- axis is = _____.			
	A.	1	B.	-1

	C.	0	D.	2
૬.	X-અક્ષને સમાંતર હોય તેવી રેખા નો ઢાળ = _____.			
	A.	1	B.	-1
	C.	0	D.	2
7.	X - intercept of the line $3x + 2y = 3$ is _____.			
	A.	2	B.	1
	C.	0	D.	3
૭.	રેખા $3x + 2y = 3$ નો X- અંતઃખંડ= _____.			
	A.	2	B.	1
	C.	0	D.	3
8.	The perpendicular distance from the origin to the line $4x + 3y = 5$ is _____.			
	A.	1	B.	5
	C.	0	D.	-1
૮.	ઉગમબિંદુથી રેખા $4x + 3y = 5$ નું લંબઅંતર _____ થાય.			
	A.	1	B.	5
	C.	0	D.	-1
9.	If two lines $2x + 4y - 1 = 0$ and $2x + ky - 5 = 0$ are perpendicular then $k =$ _____.			
	A.	0	B.	1
	C.	2	D.	-1
૯.	જો બે રેખાઓ $2x + 4y - 1 = 0$ અને $2x + ky - 5 = 0$ લંબ હોય તો $k =$ _____.			
	A.	0	B.	1
	C.	2	D.	-1
10.	Slope of the line passing through the points (1,-2) and (2,2) is _____.			
	A.	1	B.	0
	C.	-4	D.	4
૧૦.	બિંદુઓ (1,-2) અને (2,2) માંથી પસાર થતી રેખા નો ઢાળ _____ થાય.			
	A.	1	B.	0
	C.	-4	D.	4
11.	For the circle $(x - 2)^2 + (y + 2)^2 = 9$ centre is _____.			
	A.	(2,2)	B.	(-2,-2)
	C.	(2,-2)	D.	(-2,2)
૧૧.	વર્તુળ $(x - 2)^2 + (y + 2)^2 = 9$ માટે કેન્દ્ર _____ થાય.			
	A.	(2,2)	B.	(-2,-2)
	C.	(2,-2)	D.	(-2,2)
12.	Distance between two points (-4, 3) and (1,-2) is _____.			
	A.	5	B.	$5\sqrt{2}$
	C.	10	D.	$10\sqrt{2}$
૧૨.	બિંદુઓ (-4,3) અને (1,-2) વચ્ચે નું અંતર = _____.			
	A.	5	B.	$5\sqrt{2}$
	C.	10	D.	$10\sqrt{2}$
13.	Slope of a straight line making an angle of 90° with positive X- axis is = _____.			
	A.	0	B.	1
	C.	∞	D.	-1
૧૩.	ધન X-અક્ષ સાથે 90° નો ખૂણો બનાવતી રેખા નો ઢાળ = _____.			
	A.	0	B.	1
	C.	∞	D.	-1
14.	For the points A (2,3) and B (-4,-1) the mid point of $\overline{AB}$ = _____			
	A.	(1,-1)	B.	(1,1)
	C.	(-1,-1)	D.	(-1,1)
૧૪.	બિંદુઓ A (2,3) અને B (-4,-1) માટે $\overline{AB}$ નું મધ્યબિંદુ = _____			
	A.	(1,-1)	B.	(1,1)

	C.	(-1,-1)	D.	(-1,1)
15.	The angle between two straight lines $y = -x$ and $y = x$ is ____.			
	A.	π	B.	$\pi/2$
	C.	$-\pi$	D.	$-\pi/2$
૧૫.	રેખાઓ $y = -x$ અને $y = x$ વચ્ચેના ખૂણાનું માપ = ____.			
	A.	π	B.	$\pi/2$
	C.	$-\pi$	D.	$-\pi/2$
16.	If the points $(-1, -1)$, $(0, 0)$ and $(1, x)$ are co-linear then $x =$ ____.			
	A.	1	B.	2
	C.	-1	D.	0
૧૬.	જો બિંદુઓ $(-1, -1)$, $(0, 0)$ અને $(1, x)$ સમરેખ હોય તો $x =$ ____.			
	A.	1	B.	2
	C.	-1	D.	0
17.	If $f(x) = x^2 - 3x - 5$ then $f(0) =$ ____.			
	A.	-5	B.	5
	C.	-3	D.	3
૧૭.	જો $f(x) = x^2 - 3x - 5$ હોય તો $f(0) =$ ____.			
	A.	-5	B.	5
	C.	-3	D.	3
18.	$\lim_{n \rightarrow \infty} \frac{7n^3 + 5n^2 - 4}{n^3 - 2} =$ ____.			
	A.	5	B.	-4
	C.	7	D.	-2
૧૮.	$\lim_{n \rightarrow \infty} \frac{7n^3 + 5n^2 - 4}{n^3 - 2} =$ ____.			
	A.	5	B.	-4
	C.	7	D.	-2
19.	$\lim_{x \rightarrow \infty} \left(1 + \frac{5}{x}\right)^x =$ ____.			
	A.	e^{-5}	B.	e^5
	C.	5^{-e}	D.	5^e
૧૯.	$\lim_{x \rightarrow \infty} \left(1 + \frac{5}{x}\right)^x =$ ____.			
	A.	e^{-5}	B.	e^5
	C.	5^{-e}	D.	5^e
20.	$\lim_{x \rightarrow 0} \frac{3^x - 2^x}{x} =$ ____.			
	A.	0	B.	1
	C.	$\log_e \left(\frac{3}{2}\right)$	D.	$\log_e \left(\frac{2}{3}\right)$
૨૦.	$\lim_{x \rightarrow 0} \frac{3^x - 2^x}{x} =$ ____.			
	A.	0	B.	1
	C.	$\log_e \left(\frac{3}{2}\right)$	D.	$\log_e \left(\frac{2}{3}\right)$
21.	$\lim_{\theta \rightarrow 0} \frac{\sin 5\theta}{\theta} =$ ____			
	A.	1	B.	0
	C.	-5	D.	5
૨૧.	$\lim_{\theta \rightarrow 0} \frac{\sin 5\theta}{\theta} =$ ____			
	A.	1	B.	0
	C.	-5	D.	5

22.	If $f(x) = \frac{1}{1+x}$ then $f(x) + f\left(\frac{1}{x}\right) = \underline{\hspace{1cm}}$.			
	A.	1	B.	0
	C.	2	D.	-1
੨੨.	જો $f(x) = \frac{1}{1+x}$ છેલ્લે તો $f(x) + f\left(\frac{1}{x}\right) = \underline{\hspace{1cm}}$.			
	A.	1	B.	0
	C.	2	D.	-1
23.	$\lim_{x \rightarrow 3} \frac{x^2 - 9}{x - 3} = \underline{\hspace{1cm}}$			
	A.	-9	B.	6
	C.	9	D.	3
੨੩.	$\lim_{x \rightarrow 3} \frac{x^2 - 9}{x - 3} = \underline{\hspace{1cm}}$			
	A.	-9	B.	6
	C.	9	D.	3
24.	$\lim_{x \rightarrow 2} \frac{2x^2 - 4x + 5}{3 - x} = \underline{\hspace{1cm}}$.			
	A.	2	B.	3
	C.	-4	D.	5
੨੪.	$\lim_{x \rightarrow 2} \frac{2x^2 - 4x + 5}{3 - x} = \underline{\hspace{1cm}}$.			
	A.	2	B.	3
	C.	-4	D.	5
25.	If $f(x) = \log x$ then $f(x) + f(y) = \underline{\hspace{1cm}}$			
	A.	$f(x + y)$	B.	$f(x \cdot y)$
	C.	$f(x - y)$	D.	$f(x/y)$
੨੫.	જો $f(x) = \log x$ છેલ્લે તો $f(x) + f(y) = \underline{\hspace{1cm}}$			
	A.	$f(x + y)$	B.	$f(x \cdot y)$
	C.	$f(x - y)$	D.	$f(x/y)$
26.	$\lim_{n \rightarrow \infty} \frac{2 \sum n}{n^2 - 2n + 5} = \underline{\hspace{1cm}}$.			
	A.	1	B.	-1
	C.	5	D.	-2
੨੬.	$\lim_{n \rightarrow \infty} \frac{2 \sum n}{n^2 - 2n + 5} = \underline{\hspace{1cm}}$.			
	A.	1	B.	-1
	C.	5	D.	-2
27.	$\frac{d}{dx}(5^{10}) = \underline{\hspace{1cm}}$			
	A.	5	B.	10
	C.	6250	D.	0
੨੭.	$\frac{d}{dx}(5^{10}) = \underline{\hspace{1cm}}$			
	A.	5	B.	10
	C.	6250	D.	0
28.	$\frac{d}{dx}(\sin^2 x) = \underline{\hspace{1cm}}$			
	A.	$-2 \sin x \cos x$	B.	$2 \sin x \cos x$
	C.	$2 \sin x$	D.	$2 \cos x$
੨੮.	$\frac{d}{dx}(\sin^2 x) = \underline{\hspace{1cm}}$			
	A.	$-2 \sin x \cos x$	B.	$2 \sin x \cos x$
	C.	$2 \sin x$	D.	$2 \cos x$

29.	$\frac{d}{dx}(\log \sec x) = \underline{\hspace{2cm}}$		
	A.	$\sec x$	B. $\cot x$
	C.	$\tan x$	D. $\operatorname{cosec} x$
૨૯.	$\frac{d}{dx}(\log \sec x) = \underline{\hspace{2cm}}$		
	A.	$\sec x$	B. $\cot x$
	C.	$\tan x$	D. $\operatorname{cosec} x$
30.	$\frac{d}{dx}(\sqrt{x}) = \underline{\hspace{2cm}}$		
	A.	$\frac{1}{2\sqrt{x}}$	B. $\sqrt{x}$
	C.	$\frac{2}{\sqrt{x}}$	D. $\frac{1}{\sqrt{x}}$
૩૦.	$\frac{d}{dx}(\sqrt{x}) = \underline{\hspace{2cm}}$		
	A.	$\frac{1}{2\sqrt{x}}$	B. $\sqrt{x}$
	C.	$\frac{2}{\sqrt{x}}$	D. $\frac{1}{\sqrt{x}}$
31.	$\frac{d}{d\theta}(\sin^2 \theta + \cos^2 \theta) = \underline{\hspace{2cm}}$		
	A.	1	B. 2
	C.	-1	D. 0
૩૧.	$\frac{d}{d\theta}(\sin^2 \theta + \cos^2 \theta) = \underline{\hspace{2cm}}$		
	A.	1	B. 2
	C.	-1	D. 0
32.	$\frac{d}{dx}(\tan^{-1} x) = \underline{\hspace{2cm}}$		
	A.	$\frac{1}{1+x^2}$	B. $\frac{-1}{1+x^2}$
	C.	$\frac{1}{\sqrt{1+x^2}}$	D. $\frac{-1}{\sqrt{1+x^2}}$
૩૨.	$\frac{d}{dx}(\tan^{-1} x) = \underline{\hspace{2cm}}$		
	A.	$\frac{1}{1+x^2}$	B. $\frac{-1}{1+x^2}$
	C.	$\frac{1}{\sqrt{1+x^2}}$	D. $\frac{-1}{\sqrt{1+x^2}}$
33.	$\frac{d}{dx}(x^e) = \underline{\hspace{2cm}}$		
	A.	x^{-e}	B. ex^{e-1}
	C.	x^e	D. ex^{e+1}
૩૩.	$\frac{d}{dx}(x^e) = \underline{\hspace{2cm}}$		
	A.	x^{-e}	B. ex^{e-1}
	C.	x^e	D. ex^{e+1}
34.	Maximum value of function $f(x) = \sin x$		
	A.	1	B. 2
	C.	-1	D. 0
૩૪.	વિધેય $f(x) = \sin x$ ની મહત્તમ કિંમત = _____.		

	A.	1	B.	2
	C.	-1	D.	0
35.	$\frac{d}{dx}(\log_2 x) = \underline{\hspace{2cm}}$			
	A.	$\frac{1}{x}$	B.	$\frac{1}{x \log_e 2}$
	C.	$\frac{2}{x}$	D.	$\frac{1}{2 \log_e x}$
36.	$\frac{d}{dx}(\log_2 x) = \underline{\hspace{2cm}}$			
	A.	$\frac{1}{x}$	B.	$\frac{1}{x \log_e 2}$
	C.	$\frac{2}{x}$	D.	$\frac{1}{2 \log_e x}$
37.	If $f(x) = e^x$ then $f''(0) = \underline{\hspace{2cm}}$			
	A.	0	B.	-1
	C.	1	D.	e
38.	જો $f(x) = e^x$ હોય તો $f''(0) = \underline{\hspace{2cm}}$			
	A.	0	B.	-1
	C.	1	D.	e
39.	$\frac{d}{dx}(\sin \pi) = \underline{\hspace{2cm}}$			
	A.	$\sin \pi$	B.	0
	C.	$\cos \pi$	D.	-1
40.	$\frac{d}{dx}(\sin \pi) = \underline{\hspace{2cm}}$			
	A.	$\sin \pi$	B.	0
	C.	$\cos \pi$	D.	-1
41.	$\frac{d}{dx}(x^4 + 4^x + 4^4) = \underline{\hspace{2cm}}$			
	A.	$4x^3 - 4^x \log 4$	B.	$4x^3 + 4^x \log x$
	C.	$4x^3 + 4^x \log 4$	D.	$4x^3 - 4^x \log x$
42.	$\frac{d}{dx}(x^4 + 4^x + 4^4) = \underline{\hspace{2cm}}$			
	A.	$4x^3 - 4^x \log 4$	B.	$4x^3 + 4^x \log x$
	C.	$4x^3 + 4^x \log 4$	D.	$4x^3 - 4^x \log x$
43.	If $y = x^x$ then $\frac{dy}{dx} = \underline{\hspace{2cm}}$.			
	A.	$x^x(1 + \log x)$	B.	$x^x(1 - \log x)$
	C.	0	D.	$x^x(\log x - 1)$
44.	જો $y = x^x$ હોય તો $\frac{dy}{dx} = \underline{\hspace{2cm}}$.			
	A.	$x^x(1 + \log x)$	B.	$x^x(1 - \log x)$
	C.	0	D.	$x^x(\log x - 1)$
45.	If $u = \sin x; v = \cos x$ then $\frac{dv}{du} = \underline{\hspace{2cm}}$.			
	A.	$\tan x$	B.	$\cot x$
	C.	$-\tan x$	D.	$-\cot x$
46.	જો $u = \sin x; v = \cos x$ હોય તો $\frac{dv}{du} = \underline{\hspace{2cm}}$.			
	A.	$\tan x$	B.	$\cot x$
	C.	$-\tan x$	D.	$-\cot x$

41.	$\frac{d}{dx}(e^x \cos x) = \underline{\hspace{2cm}}$		
	A.	$e^x \sin x + e^x \cos x$	B. $e^x \cos x$
	C.	$e^x \sin x - e^x \cos x$	D. $e^x \cos x - e^x \sin x$
૪૧.	$\frac{d}{dx}(e^x \cos x) = \underline{\hspace{2cm}}$		
	A.	$e^x \sin x + e^x \cos x$	B. $e^x \cos x$
	C.	$e^x \sin x - e^x \cos x$	D. $e^x \cos x - e^x \sin x$
42.	If $y = e^x$ then $\frac{d^2 y}{dx^2} = \underline{\hspace{2cm}}$.		
	A.	0	B. e^x
	C.	e^{-x}	D. $-e^x$
૪૨.	જો $y = e^x$ હોય તો $\frac{d^2 y}{dx^2} = \underline{\hspace{2cm}}$.		
	A.	0	B. e^x
	C.	e^{-x}	D. $-e^x$
43.	The minimum value of $f(x) = x^2 - 4x + 5$ is ____.		
	A.	0	B. -1
	C.	-4	D. 1
૪૩.	$f(x) = x^2 - 4x + 5$ ની ન્યૂનતમ કિંમત ____ થાય.		
	A.	0	B. -1
	C.	-4	D. 1
44.	The equation of motion of a particle is $s = t^3 - 3t + 7$, the velocity of a particle at $t = 1$ sec is ____ units.		
	A.	0	B. 7
	C.	1	D. 3
૪૪.	એક કણનું ગતિસૂત્ર $s = t^3 - 3t + 7$ છે. તો $t = 1$ સે. સમયે તેનો વેગ ____ એકમ થાય.		
	A.	0	B. 7
	C.	1	D. 3
45.	$\int \cos(2x - 7) dx = \underline{\hspace{2cm}} + C$		
	A.	$2 \sin(2x - 7)$	B. $-2 \sin(x - 7)$
	C.	$\frac{1}{2} \sin(2x - 7)$	D. $-\frac{1}{2} \sin(2x - 7)$
૪૫.	$\int \cos(2x - 7) dx = \underline{\hspace{2cm}} + C$		
	A.	$2 \sin(2x - 7)$	B. $-2 \sin(x - 7)$
	C.	$\frac{1}{2} \sin(2x - 7)$	D. $-\frac{1}{2} \sin(2x - 7)$
46.	$\int \sec x \tan x dx = \underline{\hspace{2cm}} + C$		
	A.	$-\tan x$	B. $\tan x + x$
	C.	$\sec x$	D. $\tan x$
૪૬.	$\int \sec x \tan x dx = \underline{\hspace{2cm}} + C$		
	A.	$-\tan x$	B. $\tan x + x$
	C.	$\sec x$	D. $\tan x$
47.	$\int_0^1 \frac{1}{1+x^2} dx = \underline{\hspace{2cm}}$		
	A.	4π	B. -4π
	C.	$\pi/4$	D. $-\pi/4$

૪૭.	$\int_0^1 \frac{1}{1+x^2} dx = \underline{\hspace{2cm}}$			
	A.	4π	B.	-4π
	C.	$\pi/4$	D.	$-\pi/4$
48.	$\int \frac{1}{x} dx = \underline{\hspace{2cm}} + c$			
	A.	0	B.	$\log_e x$
	C.	$\log_{10} x$	D.	$\log_2 x$
૪૮.	$\int \frac{1}{x} dx = \underline{\hspace{2cm}} + c$			
	A.	0	B.	$\log_e x$
	C.	$\log_{10} x$	D.	$\log_2 x$
49.	$\int \log x dx = \underline{\hspace{2cm}}$			
	A.	$x \log x - x + c$	B.	$-x \log x + x + c$
	C.	$-x \log x - x + c$	D.	$x \log x + x + c$
૪૯.	$\int \log x dx = \underline{\hspace{2cm}}$			
	A.	$x \log x - x + c$	B.	$-x \log x + x + c$
	C.	$-x \log x - x + c$	D.	$x \log x + x + c$
50.	$\int_{-\pi}^{\pi} x dx = \underline{\hspace{2cm}}$			
	A.	-2π	B.	2π
	C.	0	D.	π
૫૦.	$\int_{-\pi}^{\pi} x dx = \underline{\hspace{2cm}}$			
	A.	-2π	B.	2π
	C.	0	D.	π
51.	Volume generated by revolving the circle of radius r, about the x-axis is $\underline{\hspace{2cm}}$.			
	A.	$\frac{\pi r^2 h}{3}$	B.	πr^2
	C.	$\pi r^2 h$	D.	$\frac{4\pi r^3}{3}$
૫૧.	r ત્રિજ્યા વાળા વર્તુળને x – અક્ષ ફરતે પરિભ્રમણ કરાવતા રચાતા ધનનું ધનફળ = $\underline{\hspace{2cm}}$.			
	A.	$\frac{\pi r^2 h}{3}$	B.	πr^2
	C.	$\pi r^2 h$	D.	$\frac{4\pi r^3}{3}$
52.	$\int \frac{dx}{16+x^2} = \underline{\hspace{2cm}} + c$			
	A.	$\frac{1}{4} \tan^{-1} \frac{x}{4}$	B.	$\frac{1}{4} \tan^{-1} x$
	C.	$\tan^{-1} \frac{x}{4}$	D.	$\pi/4$
૫૨.	$\int \frac{dx}{16+x^2} = \underline{\hspace{2cm}} + c$			
	A.	$\frac{1}{4} \tan^{-1} \frac{x}{4}$	B.	$\frac{1}{4} \tan^{-1} x$

	C.	$\tan^{-1} \frac{x}{4}$	D.	$\pi/4$
53.	$\int_0^{\pi/2} \frac{\sqrt[3]{\sin x}}{\sqrt[3]{\sin x} + \sqrt[3]{\cos x}} dx = \underline{\hspace{2cm}}$			
	A.	$\pi/2$	B.	π
	C.	0	D.	$\pi/4$
43.	$\int_0^{\pi/2} \frac{\sqrt[3]{\sin x}}{\sqrt[3]{\sin x} + \sqrt[3]{\cos x}} dx = \underline{\hspace{2cm}}$			
	A.	$\pi/2$	B.	π
	C.	0	D.	$\pi/4$
54.	$\int (4x^3 + e^x - \cos x) dx = \underline{\hspace{2cm}}$			
	A.	$x^4 + e^x - \sin x + c$	B.	$x^4 + e^x + \sin x + c$
	C.	$x^4 - e^x + \sin x + c$	D.	$x^4 - e^x - \sin x + c$
48.	$\int (4x^3 + e^x - \cos x) dx = \underline{\hspace{2cm}}$			
	A.	$x^4 + e^x - \sin x + c$	B.	$x^4 + e^x + \sin x + c$
	C.	$x^4 - e^x + \sin x + c$	D.	$x^4 - e^x - \sin x + c$
55.	$\int (f'(x) + f(x)) \cdot e^x dx = \underline{\hspace{2cm}} + c$			
	A.	$f(x) \cdot e^x$	B.	$\log f(x) \cdot e^x$
	C.	$ \log(f(x)) \cdot e^x$	D.	$f'(x) \cdot e^x$
44.	$\int (f'(x) + f(x)) \cdot e^x dx = \underline{\hspace{2cm}} + c$			
	A.	$f(x) \cdot e^x$	B.	$\log f(x) \cdot e^x$
	C.	$ \log(f(x)) \cdot e^x$	D.	$f'(x) \cdot e^x$
56.	$\int \frac{\cos(\log x)}{x} dx = \underline{\hspace{2cm}} + c$			
	A.	$\sin(e^x)$	B.	$\cos(e^x)$
	C.	$\sin(\log x)$	D.	$-\sin(\log x)$
46.	$\int \frac{\cos(\log x)}{x} dx = \underline{\hspace{2cm}} + c$			
	A.	$\sin(e^x)$	B.	$\cos(e^x)$
	C.	$\sin(\log x)$	D.	$-\sin(\log x)$
57.	$\int x \sin x dx = \underline{\hspace{2cm}} + c$			
	A.	$x \sin x + \cos x$	B.	$\sin x - x \cos x$
	C.	$\sin x + x \cos x$	D.	$x \sin x - \cos x$
49.	$\int x \sin x dx = \underline{\hspace{2cm}} + c$			
	A.	$x \sin x + \cos x$	B.	$\sin x - x \cos x$
	C.	$\sin x + x \cos x$	D.	$x \sin x - \cos x$
58.	$\int \sec^2 x dx = \underline{\hspace{2cm}} + C$			
	A.	$-\tan x$	B.	$\tan x + x$
	C.	$\sec x$	D.	$\tan x$
46.	$\int \sec^2 x dx = \underline{\hspace{2cm}} + C$			
	A.	$-\tan x$	B.	$\tan x + x$
	C.	$\sec x$	D.	$\tan x$

59.	$\int_0^2 \frac{3x^2}{1+x^3} dx = \underline{\hspace{2cm}}$			
	A.	$-\log 9$	B.	1
	C.	-1	D.	$\log 9$
૫૯.	$\int_0^2 \frac{3x^2}{1+x^3} dx = \underline{\hspace{2cm}}$			
	A.	$-\log 9$	B.	1
	C.	-1	D.	$\log 9$
60.	Area of the region bounded by the curve $y^2 = 4x$, x - axis and line $x = 2$ is __units			
	A.	$\frac{8\sqrt{2}}{3}$	B.	$\frac{8\sqrt{3}}{2}$
	C.	$\frac{8\sqrt{5}}{3}$	D.	$\frac{8\sqrt{3}}{5}$
૬૦.	વક્રો $y^2 = 4x$, x - axis અને રેખા $x = 2$ વચ્ચે ઘેરાતા પ્રદેશનું ક્ષેત્રફળ = ____.			
	A.	$\frac{8\sqrt{2}}{3}$	B.	$\frac{8\sqrt{3}}{2}$
	C.	$\frac{8\sqrt{5}}{3}$	D.	$\frac{8\sqrt{3}}{5}$
61.	Mean of the first five odd numbers is ____.			
	A.	0	B.	5
	C.	5.2	D.	5.1
૬૧.	પ્રથમ પાંચ અચુગ્મ સંખ્યાઓ નો મધ્યક ____ થશે.			
	A.	0	B.	5
	C.	5.2	D.	5.1
62.	Range of the observations 10, 20, 30, 40, 50 and 60 is ____.			
	A.	40	B.	50
	C.	60	D.	70
૬૨.	અવલોકનો 10, 20, 30, 40, 50 અને 60 નો વિસ્તાર ____ થશે.			
	A.	40	B.	50
	C.	60	D.	70
63.	For the data 10, 17, 13, 5, 9, 7, 12, 4 and 10 the median is ____.			
	A.	8	B.	9
	C.	10	D.	7
૬૩.	અવલોકનો 10, 17, 13, 5, 9, 7, 12, 4 અને 10 હોય તો મધ્યસ્થ = ____.			
	A.	8	B.	9
	C.	10	D.	7
64.	Relation between Mean, Median and Mode is ____.			
	A.	$Z = 3M - 2\bar{X}$	B.	$Z = 2M - 3\bar{X}$
	C.	$Z = 2M + 3\bar{X}$	D.	$Z = 3M + 2\bar{X}$
૬૪.	મધ્યક, મધ્યસ્થ અને બહુલક વચ્ચેનો સંબંધ = ____.			
	A.	$Z = 3M - 2\bar{X}$	B.	$Z = 2M - 3\bar{X}$
	C.	$Z = 2M + 3\bar{X}$	D.	$Z = 3M + 2\bar{X}$
65.	For the data 25, a, 8, 12, 13 and 7 the mean is 12 then a = ____.			
	A.	7.01	B.	7.10
	C.	7	D.	7.15
૬૫.	અવલોકનો 25, a, 8, 12, 13 અને 7 માટે મધ્યક 12 હોય તો a = ____.			
	A.	7.01	B.	7.10
	C.	7	D.	7.15

66.	Standard deviation is given by ____.			
A.	$\sqrt{\frac{\sum(x_i - \bar{x})^2}{n}}$	B.	$\sqrt{\frac{\sum(x_i + \bar{x})^2}{n}}$	
C.	$\sqrt{\frac{\sum(\bar{x} - x_i)^2}{2n}}$	D.	$\sqrt{\sum(x_i - \bar{x})^2}$	
૬૬.	પ્રમાણિત વિચલન = ____.			
A.	$\sqrt{\frac{\sum(x_i - \bar{x})^2}{n}}$	B.	$\sqrt{\frac{\sum(x_i + \bar{x})^2}{n}}$	
C.	$\sqrt{\frac{\sum(\bar{x} - x_i)^2}{2n}}$	D.	$\sqrt{\sum(x_i - \bar{x})^2}$	
67.	If mean is 27 and median is 23 for the same data then mode of the data is ____.			
A.	5	B.	10	
C.	15	D.	20	
૬૭.	જો અવલોકનો નો મધ્યક 27 અને મધ્યસ્થ 23 હોય તો તે અવલોકનો નો બહુલક = ____.			
A.	5	B.	10	
C.	15	D.	20	
68.	Mode of the data 5, 5, 1, 3, 0 is ____.			
A.	1	B.	5	
C.	0	D.	-1	
૬૮.	માહિતી 5, 5, 1, 3, 0 નો બહુલક ____ થશે.			
A.	1	B.	5	
C.	0	D.	-1	
69.	Standard deviation of the observations 1, 2, 3, 4 and 5 is ____.			
A.	1	B.	$\sqrt{2}$	
C.	5	D.	$\sqrt{3}$	
૬૯.	અવલોકનો 1, 2, 3, 4 અને 5 નું પ્રમાણિત વિચલન ____ છે.			
A.	1	B.	$\sqrt{2}$	
C.	5	D.	$\sqrt{3}$	
70.	Mean of the observations x-6, x-5, x-3, x+4 and x+5 is 5 then x= ____.			
A.	0	B.	2	
C.	4	D.	6	
૭૦.	અવલોકનો x-6, x-5, x-3, x+4 and x+5 નો મધ્યક 5 છે તો x= ____.			
A.	0	B.	2	
C.	4	D.	6	
