Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Engineering – SEMESTER – 2(CtoD) – EXAMINATION – Winter-2022

Subject Code: C320003 Date: 14-03-2023

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.**

No.	Question Text and Option. પ્રશ્ન અને વિકલ્પો.			
1.	$d[(0,1),(1,0)]$ =____.			
	A.	$\sqrt{2}$	B.	1
	C.	0	D.	2
૧.	$d[(0,1),(1,0)]$ =____.			
	A.	$\sqrt{2}$	B.	1
	C.	0	D.	2
2.	If $A(0,-1)$ and $B(4,5)$ then the coordinates of the mid-point of the $\overline{AB}$ =____.			
	A.	(4, 4)	B.	(2, 2)
	C.	(−2, 2)	D.	(4, 6)
૨.	જો $A(0,-1)$ અને $B(4,5)$ માટે $\overline{AB}$ નાં મધ્યબિંદુઓનાં યામ =____.			
	A.	(4, 4)	B.	(2, 2)
	C.	(−2, 2)	D.	(4, 6)
3.	For $A(a,b)$ and $B(b,-a)$, if $M(1,2)$ is the mid-point of the $\overline{AB}$, then $A(a,b)$ =____.			
	A.	(−1, 3)	B.	(−1, − 3)
	C.	(1, 3)	D.	(1, − 3)
૩.	$A(a,b)$ અને $B(b,-a)$ માટે જો $M(1,2)$ એ $\overline{AB}$ નો મધ્યબિંદુ હોય તો $A(a,b)$ =____.			
	A.	(−1, 3)	B.	(−1, − 3)
	C.	(1, 3)	D.	(1, − 3)
4.	If $A(1,0)$, $B(1,1)$ and $C(0,1)$ are the vertices of triangle then $m\angle B$ =____.			
	A.	90°	B.	60°
	C.	30°	D.	45°
૪.	જો $A(1,0)$, $B(1,1)$ અને $C(0,1)$ એ ત્રિકોણનાં શિરોબિંદુઓ હોય તો $m\angle B$ =____.			
	A.	90°	B.	60°
	C.	30°	D.	45°
5.	Slope of the line $y = x$ is =____.			
	A.	∞	B.	1
	C.	0	D.	-1
૫.	રેખા $y = x$ નો ઢાળ =____.			
	A.	∞	B.	1
	C.	0	D.	-1

6.	Slope of the line $y=1$ is =____.			
	A.	∞	B.	1
	C.	0	D.	-1
૬.	રેખા $y=1$ નો ઢાળ =____.			
	A.	∞	B.	1
	C.	0	D.	-1
7.	Slope of the line making an angle $\frac{\pi}{2}$ radian with positive $x-axis$ is =____.			
	A.	∞	B.	1
	C.	$\frac{1}{\sqrt{3}}$	D.	$\sqrt{3}$
૭.	$x-$ અક્ષ સાથે $\frac{\pi}{2}$ ખૂણો બનાવતી રેખાનો ઢાળ =____.			
	A.	∞	B.	1
	C.	$\frac{1}{\sqrt{3}}$	D.	$\sqrt{3}$
8.	Equation of the line passing through the points $(0,0)$ and $(2,3)$ is =____.			
	A.	$2x+3y=0$	B.	$2x-3y=0$
	C.	$3x-2y=0$	D.	$y=2x-3$
૮.	બિંદુઓ $(0,0)$ અને $(2,3)$ માંથી પસાર થતી રેખાનું સમીકરણ =____.			
	A.	$2x+3y=0$	B.	$2x-3y=0$
	C.	$3x-2y=0$	D.	$y=2x-3$
9.	If lines $3x+ky+1=0$ and $2x-3y+7=0$ are perpendicular then, k =____.			
	A.	-2	B.	1
	C.	3	D.	2
૯.	જો રેખાઓ $3x+ky+1=0$ અને $2x-3y+7=0$ પરસ્પર લંબ હોય તો, k =____.			
	A.	-2	B.	1
	C.	3	D.	2
10.	y - intercept of the line $2x+3y=6$ is =____.			
	A.	-2	B.	6
	C.	3	D.	2
૧૦.	રેખા $2x+3y=6$ નો y - અંતઃખંડ =____.			
	A.	-2	B.	6
	C.	3	D.	2
11.	Radius of the circle $x^2+y^2=1$ is =____.			
	A.	$\sqrt{2}$	B.	1
	C.	0	D.	2
૧૧.	વર્તુળ $x^2+y^2=1$ની ત્રિજ્યા =____.			
	A.	$\sqrt{2}$	B.	1
	C.	0	D.	2
12.	Centre of the circle $x^2+(y-2)^2=4$ is =____.			
	A.	(2, 4)	B.	(2, 2)
	C.	(0, 2)	D.	(2, 0)
૧૨.	વર્તુળ $x^2+(y-2)^2=4$ નું કેન્દ્ર=____.			
	A.	(2, 4)	B.	(2, 2)
	C.	(0, 2)	D.	(2, 0)
13.	Area of the circle $x^2+y^2=2ax$ is =____.			
	A.	$2\pi a^2$	B.	πa^2

	C.	$\frac{\pi a^2}{2}$	D.	$\frac{\pi a^2}{4}$
૧૩.	વર્તુળ $x^2+y^2=2ax$ નું ક્ષેત્રફળ =____.			
	A.	$2\pi a^2$	B.	πa^2
	C.	$\frac{\pi a^2}{2}$	D.	$\frac{\pi a^2}{4}$
14.	Equation of the tangent at $(-1, 2)$ to the circle $x^2+y^2+6x-8y+1=0$ is =____.			
	A.	$x-y+3=0$	B.	$x+y-3=0$
	C.	$x-y-3=0$	D.	$y-x+3=0$
૧૪.	વર્તુળ $x^2+y^2+6x-8y+1=0$ નું $(-1, 2)$ આગળ સ્પર્શક =____.			
	A.	$x-y+3=0$	B.	$x+y-3=0$
	C.	$x-y-3=0$	D.	$y-x+3=0$
15.	If $f(x)=\cos 2x$ then, $f(\frac{\pi}{6})$=____.			
	A.	$\frac{1}{\sqrt{2}}$	B.	$\frac{\sqrt{3}}{2}$
	C.	1	D.	$\frac{1}{2}$
૧૫.	જો $f(x)=\cos 2x$ હોય તો, $f(\frac{\pi}{6})$=____.			
	A.	$\frac{1}{\sqrt{2}}$	B.	$\frac{\sqrt{3}}{2}$
	C.	1	D.	$\frac{1}{2}$
16.	If $f(x)=x^2-2x+1$ then, $f(-1)$=____.			
	A.	-2	B.	1
	C.	0	D.	4
૧૬.	જો $f(x)=x^2-2x+1$ હોય તો, $f(-1)$ =____.			
	A.	-2	B.	1
	C.	0	D.	4
17.	If $f(x)=x^2$ then, $f(x)-f(x-1)$ =____.			
	A.	$2x-1$	B.	x^2-x+1
	C.	$2x+1$	D.	$1-2x$
૧૭.	જો $f(x)=x^2$ then, હોય તો $f(x)-f(x-1)$ =____.			
	A.	$2x-1$	B.	x^2-x+1
	C.	$2x+1$	D.	$1-2x$
18.	If $f(x)=\log_2(x)$ then, $f(\frac{1}{2})$=____.			
	A.	-2	B.	1
	C.	-1	D.	4
૧૮.	જો $f(x)=\log_2(x)$ હોય તો, $f(\frac{1}{2})$ =____.			
	A.	-2	B.	1
	C.	-1	D.	4
19.	If $f(x)=2x+3$ and $g(x)=3x-2$ then, $g\circ f(-1)$=____.			
	A.	-2	B.	1
	C.	-1	D.	0
૧૯.	જો $f(x)=2x+3$ અને $g(x)=3x-2$ હોય તો, $g\circ f(-1)$ =____.			
	A.	-2	B.	1
	C.	-1	D.	0
20.	$\lim_{x\to 1}\frac{x^2+2x+1}{x+1}$ =____.			
	A.	2	B.	1
	C.	4	D.	0
૨૦.	$\lim_{x\to 1}\frac{x^2+2x+1}{x+1}$ =____.			

	A.	2	B.	1
	C.	4	D.	0
21.	$\lim_{x\to -2}\frac{x^3+8}{x+2}$ =_____.			
	A.	0	B.	12
	C.	4	D.	-8
২১.	$\lim_{x\to -2}\frac{x^3+8}{x+2}$ =_____.			
	A.	0	B.	12
	C.	4	D.	-8
22.	$\lim_{x\to 0}\frac{2^{3x}-2^x}{x}$ =_____.			
	A.	0	B.	$\log_e 3$
	C.	$\log_e 4$	D.	$\log_e 2$
২২.	$\lim_{x\to 0}\frac{2^{3x}-2^x}{x}$ =_____.			
	A.	0	B.	$\log_e 3$
	C.	$\log_e 4$	D.	$\log_e 2$
23.	$\lim_{n\to\infty}\frac{\sum n^2}{n^3}$ =_____.			
	A.	1	B.	$\frac{1}{3}$
	C.	$\frac{2}{3}$	D.	$\frac{1}{6}$
২৩.	$\lim_{n\to\infty}\frac{\sum n^2}{n^3}$ =_____.			
	A.	1	B.	$\frac{1}{3}$
	C.	$\frac{2}{3}$	D.	$\frac{1}{6}$
24.	$\lim_{x\to 0}\frac{\sin 2x}{\sin 3x}$ =_____.			
	A.	$\frac{3}{2}$	B.	$\frac{1}{3}$
	C.	$\frac{2}{3}$	D.	$\frac{1}{6}$
২৪.	$\lim_{x\to 0}\frac{\sin 2x}{\sin 3x}$ =_____.			
	A.	$\frac{3}{2}$	B.	$\frac{1}{3}$
	C.	$\frac{2}{3}$	D.	$\frac{1}{6}$
25.	$\lim_{x\to 0}\frac{\tan x}{x}$ =_____.			
	A.	1	B.	0
	C.	-1	D.	$\frac{\pi}{2}$
২৫.	$\lim_{x\to 0}\frac{\tan x}{x}$ =_____.			
	A.	1	B.	0
	C.	-1	D.	$\frac{\pi}{2}$
26.	$\lim_{n\to\infty}\left(1-\frac{2}{n}\right)^n$ =_____.			
	A.	2	B.	e^2
	C.	-2	D.	e^{-2}
২৬.	$\lim_{n\to\infty}\left(1-\frac{2}{n}\right)^n$ =_____.			
	A.	2	B.	e^2

	C.	-2	D.	e^{-2}
27.	$\lim_{n\to 0}(1+3n)^{\frac{1}{n}}=$____.			
	A.	3	B.	e^3
	C.	$\frac{e}{3}$	D.	e^{-3}
২৭.	$\lim_{n\to 0}(1+3n)^{\frac{1}{n}}=$____.			
	A.	3	B.	e^3
	C.	$\frac{e}{3}$	D.	e^{-3}
28.	$\frac{d(1)}{dx}=$____.			
	A.	1	B.	0
	C.	x	D.	$2x$
২৮.	$\frac{d(1)}{dx}=$____.			
	A.	1	B.	0
	C.	x	D.	$2x$
29.	$\frac{d(\log x)}{dx}=$____.			
	A.	1	B.	0
	C.	x	D.	$\frac{1}{x}$
২৯.	$\frac{d(\log x)}{dx}=$____.			
	A.	1	B.	0
	C.	x	D.	$\frac{1}{x}$
30.	$\frac{d(x^{1/2})}{dx}=$____.			
	A.	$\frac{1}{2}x^{1/2}$	B.	$\frac{1}{2}x^{-1/2}$
	C.	$\frac{1}{2}x^{3/2}$	D.	$\frac{3}{2}x^{3/2}$
৩০.	$\frac{d(x^{1/2})}{dx}=$____.			
	A.	$\frac{1}{2}x^{1/2}$	B.	$\frac{1}{2}x^{-1/2}$
	C.	$\frac{1}{2}x^{3/2}$	D.	$\frac{3}{2}x^{3/2}$
31.	$\frac{d(a^x)}{dx}=$____.			
	A.	$a^x\log_e a$	B.	$a^x\log_e x$
	C.	xa^{x-1}	D.	xa^x
৩১.	$\frac{d(a^x)}{dx}=$____.			
	A.	$a^x\log_e a$	B.	$a^x\log_e x$
	C.	xa^{x-1}	D.	xa^x
32.	$\frac{d(\sin^2 x)}{dx}=$____.			
	A.	$2\sin x\cos x$	B.	$-2\sin x\cos x$
	C.	$\frac{\sin^3 x}{3}$	D.	$\cos^2 x$
৩২.	$\frac{d(\sin^2 x)}{dx}=$____.			
	A.	$2\sin x\cos x$	B.	$-2\sin x\cos x$
	C.	$\frac{\sin^3 x}{3}$	D.	$\cos^2 x$
33.	$\frac{d}{dx}(\frac{\sin x}{\cos x})=$____.			
	A.	$\sec x\tan x$	B.	$\sec^2 x$
	C.	$\operatorname{cosec} x\cot x$	D.	$-\operatorname{cosec}^2 x$

૩૩.	$\frac{d}{dx}(\frac{\sin x}{\cos x})$ =____.			
	A.	$\sec x \tan x$	B.	$\sec^2 x$
	C.	$\operatorname{cosec} x \cot x$	D.	$-\operatorname{cosec}^2 x$
34.	$\frac{d}{dx}(\tan^{-1} x + \cot^{-1} x)$ =____.			
	A.	1	B.	0
	C.	-1	D.	$\frac{\pi}{2}$
૩૪.	$\frac{d}{dx}(\tan^{-1} x + \cot^{-1} x)$ =____.			
	A.	1	B.	0
	C.	-1	D.	$\frac{\pi}{2}$
35.	If $xy = 2$ then, $\frac{dy}{dx}$ =____.			
	A.	$\frac{1}{2}$	B.	$\frac{-x}{y}$
	C.	$\frac{x}{y}$	D.	$\frac{-y}{x}$
૩૫.	જો $xy = 2$ હોય તો, $\frac{dy}{dx}$ =____.			
	A.	$\frac{1}{2}$	B.	$\frac{-x}{y}$
	C.	$\frac{x}{y}$	D.	$\frac{-y}{x}$
36.	If $x^2 + 2xy + y^2 = 0$ then, $\frac{dy}{dx}$ =____.			
	A.	1	B.	0
	C.	-1	D.	$x + y$
૩૬.	જો $x^2 + 2xy + y^2 = 0$ હોય તો, $\frac{dy}{dx}$ =____.			
	A.	1	B.	0
	C.	-1	D.	$x + y$
37.	If $x = a\sin\theta, y = a\cos\theta$ then, $\frac{dy}{dx}$ =____.			
	A.	$\tan\theta$	B.	$-\tan\theta$
	C.	$\cot\theta$	D.	$-\cot\theta$
૩૭.	જો $x = a\sin\theta, y = a\cos\theta$ હોય તો, $\frac{dy}{dx}$ =____.			
	A.	$\tan\theta$	B.	$-\tan\theta$
	C.	$\cot\theta$	D.	$-\cot\theta$
38.	If $y = \cos x$ then, $\frac{d^2y}{dx^2}$ =____.			
	A.	$\sin x$	B.	$-\cos x$
	C.	$\cos x$	D.	$-\sin x$
૩૮.	જો $y = \cos x$ હોય તો, $\frac{d^2y}{dx^2}$ =____.			
	A.	$\sin x$	B.	$-\cos x$
	C.	$\cos x$	D.	$-\sin x$
39.	Maximum value of $f(x) = \sin x$, $x \in [0, \frac{\pi}{2}]$ is =____.			
	A.	1	B.	0
	C.	-1	D.	$\frac{\pi}{2}$
૩૯.	$f(x) = \sin x$, $x \in [0, \frac{\pi}{2}]$ની મહત્તમ કિંમત =____.			
	A.	1	B.	0
	C.	-1	D.	$\frac{\pi}{2}$
40.	The function $y = f(x)$ is minimum at (a, b) if, at (a, b) =____.			
	A.	$f'' > 0$	B.	$f' > 0$
	C.	$f'' < 0$	D.	$f' < 0$
૪૦.	વિધેય $y = f(x)$,જો (a, b) પર ન્યૂનતમ હોય તો, (a, b) =____.			

	A.	$f'' > 0$	B.	$f' > 0$
	C.	$f'' < 0$	D.	$f' < 0$
41.	If $y = x^3$, then y^{iv}=____.			
	A.	$4x^3$	B.	$24x$
	C.	$24x$	D.	0
૪૧.	જો $y = x^3$ હોય તો, y^{iv}=____.			
	A.	$4x^3$	B.	$24x$
	C.	$24x$	D.	0
42.	Minimum value of $f(x) = x^2 - 1$ is =____.			
	A.	1	B.	0
	C.	-1	D.	-2
૪૨.	$f(x) = x^2 - 1$નું ન્યૂનતમ મૂલ્ય =____.			
	A.	1	B.	0
	C.	-1	D.	-2
43.	The equation of motion of a particle is $s = t^3 - 5t^2 + 3t + 5$then, acceleration of a particle at $t = 1$is =____.			
	A.	0	B.	6
	C.	4	D.	-4
૪૩.	ગતિ કરતાં કણની ગતિનું સમીકરણ $s = t^3 - 5t^2 + 3t + 5$ હોય તો, $t = 1$ પર કણનો પ્રવેગ =____.			
	A.	0	B.	6
	C.	4	D.	-4
44.	The equation of motion of a particle is $s = t^3 - 3t^2 + 1$then, velocity of a particle at $t = 1$ is =____.			
	A.	-3	B.	6
	C.	3	D.	-4
૪૪.	ગતિ કરતાં કણની ગતિનું સમીકરણ $s = t^3 - 3t^2 + 1$ હોય તો, $t = 1$ પર કણનો વેગ =____.			
	A.	-3	B.	6
	C.	3	D.	-4
45.	$\int \sin x dx$=____.			
	A.	$\cos x + c$	B.	$-\cos x + c$
	C.	$\sin x + c$	D.	$-\sin x + c$
૪૫.	$\int \sin x dx$=____.			
	A.	$\cos x + c$	B.	$-\cos x + c$
	C.	$\sin x + c$	D.	$-\sin x + c$
46.	$\int x^3 dx$=____.			
	A.	$4x^3 + c$	B.	$3x^2 + c$
	C.	$\frac{x^4}{4} + c$	D.	$\frac{x^4}{3} + c$
૪૬.	$\int x^3 dx$=____.			
	A.	$4x^3 + c$	B.	$3x^2 + c$
	C.	$\frac{x^4}{4} + c$	D.	$\frac{x^4}{3} + c$
47.	$\int 3^x dx$=____.			
	A.	$\frac{3^x}{\log_e 3} + c$	B.	$3^x \log_e 3 + c$
	C.	$\frac{3^x}{3} + c$	D.	$3^x + c$
૪૭.	$\int 3^x dx$=____.			

	A.	$\frac{3^x}{\log_e 3}+c$	B.	$3^x \log_e 3+c$
	C.	$\frac{3^x}{3}+c$	D.	3^x+c
48.	$\int(\sin^2 x+\cos^2 x)dx$=____.			
	A.	$x+c$	B.	$2\sin x+2\cos x+c$
	C.	$\sin^3 x+\cos^3 x+c$	D.	c
४८.	$\int(\sin^2 x+\cos^2 x)dx$=____.			
	A.	$x+c$	B.	$2\sin x+2\cos x+c$
	C.	$\sin^3 x+\cos^3 x+c$	D.	c
49.	$\int\frac{1}{x^2-a^2}dx$=____.			
	A.	$\frac{1}{2a}\log\left\|\frac{x+a}{x-a}\right\|+c$	B.	$\frac{1}{2a}\log\left\|\frac{x-a}{x+a}\right\|+c$
	C.	$\tan^{-1}x+c$	D.	$-\cot^{-1}x+c$
४९.	$\int\frac{1}{x^2-a^2}dx$=____.			
	A.	$\frac{1}{2a}\log\left\|\frac{x+a}{x-a}\right\|+c$	B.	$\frac{1}{2a}\log\left\|\frac{x-a}{x+a}\right\|+c$
	C.	$\tan^{-1}x+c$	D.	$-\cot^{-1}x+c$
50.	$\int\sin^2 x\cos x dx$=____.			
	A.	$2\sin x\cos x+c$	B.	$-\frac{\sin^3 x}{3}+c$
	C.	$-\frac{\cos^3 x}{3}+c$	D.	$\frac{\sin^3 x}{3}+c$
५०.	$\int\sin^2 x\cos x dx$=____.			
	A.	$2\sin x\cos x+c$	B.	$-\frac{\sin^3 x}{3}+c$
	C.	$-\frac{\cos^3 x}{3}+c$	D.	$\frac{\sin^3 x}{3}+c$
51.	$\int\frac{1}{x^2+4}dx$=____.			
	A.	$\frac{1}{2}\tan^{-1}\left(\frac{x}{2}\right)+c$	B.	$\tan^{-1}\left(\frac{x}{2}\right)+c$
	C.	$\frac{1}{2}\sin^{-1}\left(\frac{x}{2}\right)+c$	D.	$2\tan^{-1}(x)+c$
५१.	$\int\frac{1}{x^2+4}dx$=____.			
	A.	$\frac{1}{2}\tan^{-1}\left(\frac{x}{2}\right)+c$	B.	$\tan^{-1}\left(\frac{x}{2}\right)+c$
	C.	$\frac{1}{2}\sin^{-1}\left(\frac{x}{2}\right)+c$	D.	$2\tan^{-1}(x)+c$
52.	$\int\frac{e^x}{e^{2x}+1}dx$=____.			
	A.	$\tan^{-1}\left(e^x\right)+c$	B.	$\tan^{-1}\left(e^{2x}+1\right)+c$
	C.	$\log\left(e^{2x}+1\right)+c$	D.	$\log\left(e^x\right)+c$
५२.	$\int\frac{e^x}{e^{2x}+1}dx$=____.			
	A.	$\tan^{-1}\left(e^x\right)+c$	B.	$\tan^{-1}\left(e^{2x}+1\right)+c$
	C.	$\log\left(e^{2x}+1\right)+c$	D.	$\log\left(e^x\right)+c$
53.	$\int\log x dx$=____.			
	A.	$\frac{1}{x}+c$	B.	$\frac{1}{x}+c$
	C.	$x\log x+x+c$	D.	$x\log x-x+c$
५३.	$\int\log x dx$=____.			
	A.	$\frac{1}{x}+c$	B.	$\frac{1}{x}+c$
	C.	$x\log x+x+c$	D.	$x\log x-x+c$

54.	$\int e^{3x}dx$=____.			
	A.	$e^{3x}+c$	B.	$\frac{e^{3x}}{3}+c$
	C.	$-\frac{e^{3x}}{3}+c$	D.	$3e^{3x}+c$
૫૪.	$\int e^{3x}dx$=____.			
	A.	$e^{3x}+c$	B.	$\frac{e^{3x}}{3}+c$
	C.	$-\frac{e^{3x}}{3}+c$	D.	$3e^{3x}+c$
55.	$\int e^{x}\sin x dx$=____.			
	A.	$e^{x}\cos x+c$	B.	$\frac{e^{x}}{2}(\sin x-\cos x)+c$
	C.	$\frac{e^{x}}{2}(\sin x+\cos x)+c$	D.	$e^{x}(\sin x-\cos x)+c$
૫૫.	$\int e^{x}\sin x dx$=____.			
	A.	$e^{x}\cos x+c$	B.	$\frac{e^{x}}{2}(\sin x-\cos x)+c$
	C.	$\frac{e^{x}}{2}(\sin x+\cos x)+c$	D.	$e^{x}(\sin x-\cos x)+c$
56.	$\int_0^1 x^2dx$=____.			
	A.	1	B.	$\frac{1}{3}$
	C.	$\frac{2}{3}$	D.	$\frac{3}{2}$
૫૬.	$\int_0^1 x^2dx$=____.			
	A.	1	B.	$\frac{1}{3}$
	C.	$\frac{2}{3}$	D.	$\frac{3}{2}$
57.	$\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}}\cos x dx$ =____.			
	A.	1	B.	0
	C.	2	D.	$\frac{\pi}{2}$
૫૭.	$\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}}\cos x dx$ =____.			
	A.	1	B.	0
	C.	2	D.	$\frac{\pi}{2}$
58.	$\int_{-2}^{2} x^3dx$=____.			
	A.	1	B.	0
	C.	$\frac{1}{4}$	D.	$\frac{1}{2}$
૫૮.	$\int_{-2}^{2} x^3dx$=____.			
	A.	1	B.	0
	C.	$\frac{1}{4}$	D.	$\frac{1}{2}$
59.	Area enclosed by the lines $y=x, x=1, x=2$ and $x-axis$ is =____.			
	A.	3	B.	0
	C.	$\frac{3}{2}$	D.	$\frac{1}{2}$
૫૯.	રેખાઓ $y=x, x=1, x=2$ અને $x-$ અક્ષ વડે આવૃત પ્રદેશ નું ક્ષેત્રફળ =____.			

	A.	3	B.	0
	C.	$\frac{3}{2}$	D.	$\frac{1}{2}$
60.	Area enclosed by the curve $y=\cos x$ in the first quadrant is =____.			
	A.	3	B.	1
	C.	$\frac{3}{2}$	D.	$\frac{1}{2}$
૬૦.	$y=\cos x$ વડે પ્રથમ ચરણમાં આવૃત પ્રદેશનું ક્ષેત્રફળ =____.			
	A.	3	B.	1
	C.	$\frac{3}{2}$	D.	$\frac{1}{2}$
61.	Range of the observations $2, 5, 4, 10, 4, 9, 6$ is =____.			
	A.	8	B.	4
	C.	7	D.	10
૬૧.	અવલોકનો $2, 5, 4, 10, 4, 9, 6$ નો વિસ્તાર =____.			
	A.	8	B.	4
	C.	7	D.	10
62.	Mean of the observations $2, 5, 4, 1, 3$ is =____.			
	A.	3	B.	1
	C.	5	D.	4
૬૨.	અવલોકનો $2, 5, 4, 1, 3$ નો મધ્યક =____.			
	A.	3	B.	1
	C.	5	D.	4
63.	Median of the observations $2, 5, 7, 11, 3$ is =____.			
	A.	3	B.	1
	C.	5	D.	4
૬૩.	અવલોકનો $2, 5, 7, 11, 3$ નો મધ્યસ્થ=____.			
	A.	3	B.	1
	C.	5	D.	4
64.	If Mean of the observations $x-2, x+5, x+4, x-3$ is 10 then x =____.			
	A.	5	B.	12
	C.	9	D.	10
૬૪.	જો અવલોકનો $x-2, x+5, x+4, x-3$ નો મધ્યક 10 હોય તો, x =____.			
	A.	5	B.	12
	C.	9	D.	10
65.	Mode of the observations $2, 3, 2, 5, 7, 1, 2, 1, 3$ is =____.			
	A.	9	B.	2
	C.	7	D.	1
૬૫.	અવલોકનો $2, 3, 2, 5, 7, 1, 2, 1, 3$ નો બહુલક =____.			
	A.	9	B.	2
	C.	7	D.	1
66.	Relation between mean, median and mode is given by _____.			
	A.	$Z=3M-2\overline{X}$	B.	$Z=3M+2\overline{X}$
	C.	$Z=3\overline{X}-2M$	D.	$Z=3\overline{X}+2M$
૬૬.	મધ્યક, મધ્યસ્થ અને બહુલક વચ્ચેનો સંબંધ =_____.			
	A.	$Z=3M-2\overline{X}$	B.	$Z=3M+2\overline{X}$
	C.	$Z=3\overline{X}-2M$	D.	$Z=3\overline{X}+2M$
67.	Mean and standard deviation of 10 observations are 4 and 2 then their coefficient of variation is ___%			
	A.	10	B.	100
	C.	50	D.	$\frac{1}{2}$

૬૭.	10 અવલોકનો મધ્યક અને પ્રમાણિત વિચલન 4 અને 2 હોય તો તેમનો ચલનાંક ___%			
	A.	10	B.	100
	C.	50	D.	$\frac{1}{2}$
68.	If the Mean of the data is 10 and coefficient of variation is 40% then, the standard deviation of the data =_____.			
	A.	3	B.	10
	C.	5	D.	4
૬૮.	જો અવલોકનો મધ્યક 10 અને ચલનાંક 40% હોય તો, પ્રમાણિત વિચલન =_____.			
	A.	3	B.	10
	C.	5	D.	4
69.	From given 12 observations if, $\sum x_i = 102$ and $\sum x^2{}_i = 1542$ then, standard deviation is = _____.			
	A.	56.25	B.	7.5
	C.	38.33	D.	11.25
૬૯.	આપેલા અવલોકનો માટે, જો $\sum x_i = 102$ અને $\sum x^2{}_i = 1542$ હોય તો પ્રમાણિત વિચલન =_____.			
	A.	56.25	B.	7.5
	C.	38.33	D.	11.25
70.	The mean deviation from the mean of the observation $3, 10, 4, 10, 7, 10, 5$ is= _____.			
	A.	2.57	B.	2
	C.	3	D.	3.75
૭૦.	અવલોકનો $3, 10, 4, 10, 7, 10, 5$ નું મધ્યકથી સરેરાશ વિચલન = _____.			
	A.	2.57	B.	2
	C.	3	D.	3.75

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