

Gujarat Technological University

Diploma Engineering C to D Bridge Course Examination

Subject Code: C320003

Date: 05-01 -2017

Subject Name: Advance Maths (Group-2)

Time: 02:30 PM TO 04:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumption wherever necessary.
3. Each question is of 1 mark.
4. Use of SIMPLE CALCULATOR is permissible. (Scientific/Higher Version not allowed)
5. English version is authentic.

No. Question Text and Option. પ્રશ્ન અને વિકલ્પો.

Equation of line having slop -1 and passing from the point (2,1) is _____ .

1. A. $x + y - 3 = 0$ B. $x - y + 3 = 0$
C. $x - y - 3 = 0$ D. $x + y + 3 = 0$

બિંદુ(2,1) માંથી પસાર થતી અને -1 ઢાળ વાળી રેખાનું સમીકરણ _____ છે.

૧. A. $x + y - 3 = 0$ B. $x - y + 3 = 0$
C. $x - y - 3 = 0$ D. $x + y + 3 = 0$

Equation of line passing from the point (2,0) and (3,5) is _____ .

2. A. $x - y - 5 = 0$ B. $x - y - 2 = 0$
C. $5x - y - 10 = 0$ D. $x - 5y - 2 = 0$

બિંદુ(2,0) અને (3,5) માંથી પસાર થતી રેખાનું સમીકરણ _____ છે.

૨. A. $x - y - 5 = 0$ B. $x - y - 2 = 0$
C. $5x - y - 10 = 0$ D. $x - 5y - 2 = 0$

If line making angle 45° with positive X-axis then slope _____ .

3. A. 0 B. 1
C. $\sqrt{3}$ D. $\frac{1}{\sqrt{3}}$

જો રેખા X-અક્ષની ધન દિશા સાથે 45° નો ખૂણો બનાવે તો ઢાળ _____ થાય.

૩. A. 0 B. 1
C. $\sqrt{3}$ D. $\frac{1}{\sqrt{3}}$

Slope of line $ax + by + c = 0$ is _____ .

4. A. $\frac{b}{a}$ B. $\frac{-c}{a}$
C. $\frac{-c}{b}$ D. $\frac{-a}{b}$

રેખા $ax + by + c = 0$ નો ઢાળ _____ થશે.

૪. A. $\frac{b}{a}$ B. $\frac{-c}{a}$
C. $\frac{-c}{b}$ D. $\frac{-a}{b}$

Two lines l_1 and l_2 are parallel if their slopes become _____ .

5. A. $m_1 \neq m_2$ B. $m_1 \cdot m_2 = -1$
C. $m_1 \cdot m_2 = 1$ D. $m_1 = m_2$

જો બે રેખાઓ l_1 અને l_2 સમાંતર હોય તો તેમનો ઢાળ _____ થાય.

૫. A. $m_1 \neq m_2$ B. $m_1 \cdot m_2 = -1$
C. $m_1 \cdot m_2 = 1$ D. $m_1 = m_2$

Equation of a circle having centre (1,2) and radius 3 is _____ .

6. A. $(x + 1)^2 + (y + 2)^2 = 3$ B. $(x - 1)^2 + (y - 2)^2 = 3$

C. $(x+1)^2 + (y+2)^2 = 9$ D. $(x-1)^2 + (y-2)^2 = 9$

કેન્દ્ર (1,2) અને ત્રિજ્યા 3 વાળા વર્તુળનું સમીકરણ _____ છે.

5. A. $(x+1)^2 + (y+2)^2 = 3$ B. $(x-1)^2 + (y-2)^2 = 3$
C. $(x+1)^2 + (y+2)^2 = 9$ D. $(x-1)^2 + (y-2)^2 = 9$

For circle $x^2 + y^2 - 2x = 0$, radius is _____.

7. A. 2 B. 1
C. 4 D. 3

વર્તુળ $x^2 + y^2 - 2x = 0$, ની ત્રિજ્યા _____ છે.

9. A. 2 B. 1
C. 4 D. 3

Centre of the circle $x^2 + y^2 = 4$ is _____.

8. A. (0, 0) B. (0, 2)
C. (2, 0) D. (2, 2)

વર્તુળ $x^2 + y^2 = 4$ નું કેન્દ્ર _____ થાય.

6. A. (0, 0) B. (0, 2)
C. (2, 0) D. (2, 2)

Equation of the tangent of the circle $x^2 + y^2 = r^2$ at the point (x_1, y_1) is ____.

9. A. $x_1x + y_1y = r^2$ B. $x_1x - y_1y = r^2$
C. $x_1x + y_1y = r$ D. $x_1x - y_1y = r$

વર્તુળ $x^2 + y^2 = r^2$ ની બિંદુ (x_1, y_1) આગળ સ્પર્શકનું સમીકરણ _____ થાય.

6. A. $x_1x + y_1y = r^2$ B. $x_1x - y_1y = r^2$
C. $x_1x + y_1y = r$ D. $x_1x - y_1y = r$

If the radius of the circle $x^2 + y^2 - 4x - 8y + k = 0$ is $\sqrt{19}$ then $k =$ _____.

10. A. -41 B. 1
C. 4 D. 12

વર્તુળ $x^2 + y^2 - 4x - 8y + k = 0$ ની ત્રિજ્યા $\sqrt{19}$ હોય તો $k =$

૧૦. A. -41 B. 1
C. 4 D. 12

If A(3,5), B(-1,3) and C (2,2) are vertices of triangle then _____.

11. A. $m\angle A = 90^\circ$ B. $m\angle B = 90^\circ$
C. $m\angle C = 90^\circ$ D. None of above

જો બિંદુઓ A(3,5), B(-1,3) અને C (2,2) ત્રિકોણના શિરોબિંદુઓ હોય તો _____.

૧૧. A. $m\angle A = 90^\circ$ B. $m\angle B = 90^\circ$
C. $m\angle C = 90^\circ$ D. આમાં નું એક પણ નહિં

Distance between of the point (3, 4) from the origin is = _____.

12. A. 3 B. 4
C. 5 D. 7

બિંદુઓ (3, 4) નું ઉગમબિંદુથી અંતર = _____ થાય.

૧૨. A. 3 B. 4
C. 5 D. 7

If $d\{(x, 0), (0, 5)\} = 25$ then $x =$ _____.

13. A. 0 B. ± 1
C. ± 2 D. ± 3

જો $d\{(x, 0), (0, 5)\} = 25$ હોય તો $x =$ _____.

૧૩. A. 0 B. ± 1
C. ± 2 D. ± 3

If A (2, -7) and B (8, 3) then midpoint of line segment $\overline{AB}$ is = _____.

14. A. (5, -2) B. (-5, -2)
C. (-5, 2) D. (10, -4)

૧૪. જો A(2, -7) અને B(8, 3) હોય તો રેખાખંડ $\overline{AB}$ ના મધ્યબિંદુના યામ = _____ થાય.

- A. (5, -2) B. (-5, -2)
C. (-5, 2) D. (10, -4)

If the midpoint of line segment $\overline{AB}$ is (1,1) and B (4,3) then the coordinate of A=.

15. A. (2, 1) B. (-2, -1)
C. (-2, 1) D. (2, -1)

જો રેખાખંડ $\overline{AB}$ નાં મધ્યબિંદુનાં યામ (1,1) હોય અને B ના યામ (4,3) હોય તો A નાં યામ

૧૫. _____ થાય.

- A. (2, 1) B. (-2, -1)
C. (-2, 1) D. (2, -1)

If $f(x) = 2^x - \log_2 x$, then $f(2) =$ _____

16. A. 2 B. -2
C. 3 D. -3

જો $f(x) = 2^x - \log_2 x$, તો $f(2) =$ _____

૧૬. A. 2 B. -2
C. 3 D. -3

If $f(x) = \log_2 x$, $g(x) = x^4$ then $f(g(2)) =$ _____.

17. A. 1 B. 16
C. 4 D. 2

જો $f(x) = \log_2 x$, $g(x) = x^4$ તો $f(g(2)) =$ _____.

૧૭. A. 1 B. 16
C. 4 D. 2

If $f(x) = e^{\cos x}$ then $f(0) =$ _____.

18. A. 1 B. e
C. -1 D. 0

જો $f(x) = e^{\cos x}$ તો $f(0) =$ _____.

૧૮. A. 1 B. E
C. -1 D. 0

If $f(x) = x^2$ and $g(x) = 2x + 1$, then $f \circ g(x) =$ _____.

19. A. $4x^2 + 4x - 1$ B. $4x^2 + 4x + 1$
C. $4x^2 - 4x + 1$ D. None of above

જો $f(x) = x^2$ અને $g(x) = 2x + 1$, તો $f \circ g(x) =$ _____.

૧૯. A. $4x^2 + 4x - 1$ B. $4x^2 + 4x + 1$
C. $4x^2 - 4x + 1$ D. આમાં નું એક પણ નહિ

$\lim_{x \rightarrow 0} (1+x)^{\frac{1}{x}} =$ _____.

20. A. 1 B. -1
C. $\frac{1}{e}$ D. e

$\lim_{x \rightarrow 0} (1+x)^{\frac{1}{x}} =$ _____.

૨૦. A. 1 B. -1
C. $\frac{1}{e}$ D. E

$\lim_{x \rightarrow 0} \frac{5^x - 1}{x} =$ _____.

21. A. 1 B. $\log_e 5$
C. $\log_5 e$ D. 5

$\lim_{x \rightarrow 0} \frac{5^x - 1}{x} =$ _____.

૨૧. A. 1 B. $\log_e 5$
C. $\log_5 e$ D. 5

22. $\lim_{\theta \rightarrow 0} \frac{\sin 3\theta}{\theta} =$ _____.

- A. 1
C. 0
22. $\lim_{\theta \rightarrow 0} \frac{\sin 3\theta}{\theta} = \underline{\hspace{2cm}}.$
A. 1
C. 0
23. $\lim_{x \rightarrow 1} \frac{x^3 - 1}{x - 1} = \underline{\hspace{2cm}}.$
A. 1
C. 3
23. $\lim_{x \rightarrow 1} \frac{x^3 - 1}{x - 1} = \underline{\hspace{2cm}}.$
A. 1
C. 3
24. $\lim_{x \rightarrow 0} \frac{3x + 5 \sin x}{x} = \underline{\hspace{2cm}}.$
A. 5
C. 3
24. $\lim_{x \rightarrow 0} \frac{3x + 5 \sin x}{x} = \underline{\hspace{2cm}}.$
A. 5
C. 3
25. $\lim_{n \rightarrow \infty} \frac{6n^2 - 3n + 5}{2n^2 + 4n - 3} = \underline{\hspace{2cm}}.$
A. ∞
C. 6
25. $\lim_{n \rightarrow \infty} \frac{6n^2 - 3n + 5}{2n^2 + 4n - 3} = \underline{\hspace{2cm}}.$
A. ∞
C. 6
26. $\lim_{x \rightarrow 0} \left(1 + \frac{2x}{3}\right)^{\frac{2}{x}} = \underline{\hspace{2cm}}.$
A. 2
C. $e^{\frac{4}{3}}$
26. $\lim_{x \rightarrow 0} \left(1 + \frac{2x}{3}\right)^{\frac{2}{x}} = \underline{\hspace{2cm}}.$
A. 2
C. $e^{\frac{4}{3}}$
27. $\lim_{x \rightarrow 0} \frac{\sqrt{4+x} - 2}{x} = \underline{\hspace{2cm}}.$
A. $\frac{1}{4}$
C. 2
27. $\lim_{x \rightarrow 0} \frac{\sqrt{4+x} - 2}{x} = \underline{\hspace{2cm}}.$
A. $\frac{1}{4}$
C. 2
28. $\lim_{x \rightarrow 2} \frac{x^2 - 8x + 12}{x^2 - 4} = \underline{\hspace{2cm}}.$
A. -4
C. -1
28. $\lim_{x \rightarrow 2} \frac{x^2 - 8x + 12}{x^2 - 4} = \underline{\hspace{2cm}}.$
A. -4
C. -1
29. $\lim_{x \rightarrow 0} \frac{1}{\frac{4}{x}} = \underline{\hspace{2cm}}.$
A. $\frac{1}{4}$
C. 2
29. $\lim_{x \rightarrow 0} \frac{1}{\frac{4}{x}} = \underline{\hspace{2cm}}.$
A. $\frac{1}{4}$
C. 2
30. $\lim_{x \rightarrow 2} \frac{x^2 - 8x + 12}{x^2 - 4} = \underline{\hspace{2cm}}.$
A. -4
C. -1
30. $\lim_{x \rightarrow 2} \frac{x^2 - 8x + 12}{x^2 - 4} = \underline{\hspace{2cm}}.$
A. -4
C. -1
- B. 3
D. $\frac{1}{3}$
- B. 3
D. $\frac{1}{3}$
- B. 2
D. -1
- B. 8
D. 15
- B. 3
D. 0
- B. 3
D. 0
- B. 3
D. 1
- B. 3
D. 1
- B. $\frac{1}{6}$
D. 0
- B. $\frac{1}{6}$
D. 0
- B. 4
D. 1
- B. 4
D. 1

29. $\frac{d}{dx} (\operatorname{cosec} x) = \underline{\hspace{2cm}}$.
 A. $\sec x \cdot \tan x$
 C. $-\operatorname{cosec} x \cdot \cot x$
 B. $\operatorname{cosec} x \cdot \cot x$
 D. $\cot^2 x$
30. $\frac{d}{dx} (\operatorname{cosec} x) = \underline{\hspace{2cm}}$.
 A. $\sec x \cdot \tan x$
 C. $-\operatorname{cosec} x \cdot \cot x$
 B. $\operatorname{cosec} x \cdot \cot x$
 D. $\cot^2 x$
31. $\frac{d}{dx} (\sin^{-1} x) = \underline{\hspace{2cm}}$.
 A. $\frac{1}{\sqrt{1+x^2}}$
 C. $\frac{1}{\sqrt{x^2-1}}$
 B. $\frac{1}{\sqrt{1-x^2}}$
 D. $\frac{1}{1-x^2}$
32. $\frac{d}{dx} (\sin^{-1} x) = \underline{\hspace{2cm}}$.
 A. $\frac{1}{\sqrt{1+x^2}}$
 C. $\frac{1}{\sqrt{x^2-1}}$
 B. $\frac{1}{\sqrt{1-x^2}}$
 D. $\frac{1}{1-x^2}$
33. $\frac{d}{dx} (\sin^{-1} x + \cos^{-1} x) = \underline{\hspace{2cm}}$.
 A. 1
 C. -1
 B. 0
 D. $\frac{2}{\sqrt{1-x^2}}$
34. $\frac{d}{dx} (\sin^{-1} x + \cos^{-1} x) = \underline{\hspace{2cm}}$.
 A. 1
 C. -1
 B. 0
 D. $\frac{2}{\sqrt{1-x^2}}$
35. $\frac{d}{dx} (\sqrt{x}) = \underline{\hspace{2cm}}$.
 A. 1
 C. $\frac{1}{2\sqrt{x}}$
 B. $\frac{1}{\sqrt{x}}$
 D. $\frac{2}{\sqrt{x}}$
36. $\frac{d}{dx} (\sqrt{x}) = \underline{\hspace{2cm}}$.
 A. 1
 C. $\frac{1}{2\sqrt{x}}$
 B. $\frac{1}{\sqrt{x}}$
 D. $\frac{2}{\sqrt{x}}$
37. $\frac{d}{dx} (\sin 2x) = \underline{\hspace{2cm}}$.
 A. $2 \sin 2x$
 C. $-2 \sin 2x$
 B. $2 \cos 2x$
 D. $-2 \cos 2x$
38. $\frac{d}{dx} (\sin 2x) = \underline{\hspace{2cm}}$.
 A. $2 \sin 2x$
 C. $-2 \sin 2x$
 B. $2 \cos 2x$
 D. $-2 \cos 2x$
39. $\frac{d}{dx} (x^x) = \underline{\hspace{2cm}}$.
 A. $x^x (1 + \log x)$
 C. $x^x \log x$
 B. x^{x-1}
 D. $x^{x-1}(1 + \log x)$
40. $\frac{d}{dx} (x^x) = \underline{\hspace{2cm}}$.
 A. $x^x (1 + \log x)$
 C. $x^x \log x$
 B. x^{x-1}
 D. $x^{x-1}(1 + \log x)$
41. $\frac{d}{dx} \log (\sin x) = \underline{\hspace{2cm}}$.
 A. $\operatorname{cosec} x$
 B. $\tan x$

- C. $\cot x$ D. $-\cot x$
34. $\frac{d}{dx} \log(\sin x) = \underline{\hspace{2cm}}$.
 A. $\operatorname{cosec} x$ B. $\tan x$
 C. $\cot x$ D. $-\cot x$
36. If $x + y = 1$ then $\frac{dy}{dx} = \underline{\hspace{2cm}}$.
 A. $1 - x$ B. 0
 C. 1 D. -1
- જો $x + y = 1$ તો $\frac{dy}{dx} = \underline{\hspace{2cm}}$.
 35. A. $1 - x$ B. 0
 C. 1 D. -1
37. $\frac{d}{dx} (\sin^3 x) = \underline{\hspace{2cm}}$.
 A. $\cos^3 x$ B. $3x^2 \cos^2 x$
 C. $3\sin^2 x \cdot \cos x$ D. $3 \cos^3 x$
39. $\frac{d}{dx} (\sin^3 x) = \underline{\hspace{2cm}}$.
 A. $\cos^3 x$ B. $3x^2 \cos^2 x$
 C. $3\sin^2 x \cdot \cos x$ D. $3 \cos^3 x$
38. If $y = x^4 - x^3 + x^2 - x + 1$ then $y_5 = \underline{\hspace{2cm}}$.
 A. 1 B. 24
 C. 4 D. 0
- જો $y = x^4 - x^3 + x^2 - x + 1$ હોય તો $y_5 = \underline{\hspace{2cm}}$.
 36. A. 1 B. 24
 C. 4 D. 0
39. If $x = at^2$, $y = 2at$ then $\frac{dy}{dx} = \underline{\hspace{2cm}}$.
 A. t B. $\frac{1}{t}$
 C. at D. $\frac{t}{a}$
- જો $x = at^2$, $y = 2at$ હોય તો $\frac{dy}{dx} = \underline{\hspace{2cm}}$.
 36. A. t B. $\frac{1}{t}$
 C. at D. $\frac{t}{a}$
40. $\frac{d}{dx} (x^2 + 2x + 7) = \underline{\hspace{2cm}}$
 A. $2x + 7$ B. $2x + 2$
 C. $2x^2 + 2$ D. $2x^2 + 7$
40. $\frac{d}{dx} (x^2 + 2x + 7) = \underline{\hspace{2cm}}$
 A. $2x + 7$ B. $2x + 2$
 C. $2x^2 + 2$ D. $2x^2 + 7$
41. If $y = \frac{x-1}{x+1}$ then $\frac{dy}{dx} = \underline{\hspace{2cm}}$.
 A. $\frac{2}{(x+1)^2}$ B. $\frac{-2}{(x+1)^2}$
 C. $\frac{1}{(x+1)^2}$ D. $\frac{-1}{(x+1)^2}$
- જો $y = \frac{x-1}{x+1}$ હોય તો $\frac{dy}{dx} = \underline{\hspace{2cm}}$.
 41. A. $\frac{2}{(x+1)^2}$ B. $\frac{-2}{(x+1)^2}$
 C. $\frac{1}{(x+1)^2}$ D. $\frac{-1}{(x+1)^2}$
42. If $f(x) = \log \sqrt{x^2 + 1}$ then $f'(0) = \underline{\hspace{2cm}}$.

- A. 0
C. 2
- B. 1
D. -1
- જો $f(x) = \log \sqrt{x^2 + 1}$ હોય તો $f'(0) = \underline{\hspace{2cm}}$.
૪૨. A. 0
C. 2
- B. 1
D. -1
- If $y = x \log x$ then $\frac{d^2 y}{dx^2} = \underline{\hspace{2cm}}$
43. A. $1 + \log x$
C. $\log(e + x)$
- B. $\frac{1}{x}$
D. $\frac{-1}{x}$
- If $y = x \log x$ then $\frac{d^2 y}{dx^2} = \underline{\hspace{2cm}}$
૪૩. A. $1 + \log x$
C. $\log(e + x)$
- B. $\frac{1}{x}$
D. $\frac{-1}{x}$
- $\int \tan x \, dx = \underline{\hspace{2cm}}$.
44. A. $\log |\sin x| + c$
C. $\log |\sec x| + c$
- B. $\log |\cos x| + c$
D. $\log |\operatorname{cosec} x| + c$
- $\int \tan x \, dx = \underline{\hspace{2cm}}$.
૪૪. A. $\log |\sin x| + c$
C. $\log |\sec x| + c$
- B. $\log |\cos x| + c$
D. $\log |\operatorname{cosec} x| + c$
- $\int \frac{5}{x} \, dx = \underline{\hspace{2cm}}$.
45. A. $5 \log |x| + c$
C. $\frac{5}{x^2}$
- B. 0
D. 5
- $\int \frac{5}{x} \, dx = \underline{\hspace{2cm}}$.
૪૫. A. $5 \log |x| + c$
C. $\frac{5}{x^2}$
- B. 0
D. 5
- $\int \cot^2 x \, dx = \underline{\hspace{2cm}}$.
46. A. $-\operatorname{cosec} x + c$
C. $\cot x - x + c$
- B. $\operatorname{cosec} x + c$
D. $-\cot x - x + c$
- $\int \cot^2 x \, dx = \underline{\hspace{2cm}}$.
૪૬. A. $-\operatorname{cosec} x + c$
C. $\cot x - x + c$
- B. $\operatorname{cosec} x + c$
D. $-\cot x - x + c$
- $\int \sin^4 x \cdot \cos x \, dx = \underline{\hspace{2cm}} + C.$
47. A. $\frac{\sin^5 x}{5}$
C. $4 \sin^3 x$
- B. $5 \sin^5 x$
D. $\cos^4 x \cdot \sin x$
- $\int \sin^4 x \cdot \cos x \, dx = \underline{\hspace{2cm}} + C.$
૪૭. A. $\frac{\sin^5 x}{5}$
C. $4 \sin^3 x$
- B. $5 \sin^5 x$
D. $\cos^4 x \cdot \sin x$
- $\int \cos^2 x \, dx = \underline{\hspace{2cm}} + c.$
48. A. $\cos^3 x$
C. $\frac{x}{2} + \frac{\sin 2x}{4}$
- B. $\sin 2x$
D. $\frac{x}{2} - \frac{\sin 2x}{4}$
- $\int \cos^2 x \, dx = \underline{\hspace{2cm}} + c.$
૪૮. A. $\cos^3 x$
C. $\frac{x}{2} + \frac{\sin 2x}{4}$
- B. $\sin 2x$
D. $\frac{x}{2} - \frac{\sin 2x}{4}$
- $\int_0^1 \frac{4}{1+x^2} \, dx = \underline{\hspace{2cm}}.$
49. A. π
- B. 2π

49. C. $\frac{\pi}{4}$ D. $\frac{\pi}{2}$
 $\int_0^1 \frac{4}{1+x^2} dx = \underline{\hspace{2cm}}$
A. $\frac{\pi}{4}$ B. 2π
C. $\frac{\pi}{2}$ D. $\frac{\pi}{2}$
50. $\int \frac{1}{x^2-1} dx = \underline{\hspace{2cm}} + C$
A. $\frac{1}{2} \log \left| \frac{x-1}{x+1} \right|$ B. $\sin^{-1}x$
C. $-\sin^{-1}x$ D. $\frac{1}{2} \log \left| \frac{x+1}{x-1} \right|$
51. $\int_{-\pi}^{\pi} \frac{1}{x^2-1} dx = \underline{\hspace{2cm}} + C$
A. $\frac{1}{2} \log \left| \frac{x-1}{x+1} \right|$ B. $\sin^{-1}x$
C. $-\sin^{-1}x$ D. $\frac{1}{2} \log \left| \frac{x+1}{x-1} \right|$
52. $\int_{-\pi}^{\pi} (x^5 + \operatorname{cosec}^3 x) dx = \underline{\hspace{2cm}}$
A. 5 B. 1
C. 0 D. 3
53. $\int_{-\pi}^{\pi} (x^5 + \operatorname{cosec}^3 x) dx = \underline{\hspace{2cm}}$
A. 5 B. 1
C. 0 D. 3
54. Area of region bounded by curve $y = x$, x -axis and $x = 0, x = 1$ is = ____ unit.
A. $\frac{1}{2}$ B. $\frac{1}{4}$
C. 2 D. 1
55. વક્ર $y = x$, X -અક્ષ અને રેખા $x = 0, x = 1$ થી ઘેરાયેલા પ્રદેશનું ક્ષેત્રફળ = ____ એકમ થશે.
A. $\frac{1}{2}$ B. $\frac{1}{4}$
C. 2 D. 1
56. $\int_0^2 x^2 dx = \underline{\hspace{2cm}}$
A. $\frac{3}{8}$ B. $\frac{8}{3}$
C. 8 D. 0
57. $\int_0^2 x^2 dx = \underline{\hspace{2cm}}$
A. $\frac{3}{8}$ B. $\frac{8}{3}$
C. 8 D. 0
58. $\int \frac{1}{\sqrt{a^2-x^2}} dx = \underline{\hspace{2cm}} + c$
A. $\frac{1}{a} \cos^{-1} \left(\frac{x}{a} \right)$ B. $\cos^{-1} \left(\frac{x}{a} \right)$
C. $\frac{1}{a} \sin^{-1} \left(\frac{x}{a} \right)$ D. $\sin^{-1} \left(\frac{x}{a} \right)$
59. $\int \frac{1}{\sqrt{a^2-x^2}} dx = \underline{\hspace{2cm}} + c$
A. $\frac{1}{a} \cos^{-1} \left(\frac{x}{a} \right)$ B. $\cos^{-1} \left(\frac{x}{a} \right)$
C. $\frac{1}{a} \sin^{-1} \left(\frac{x}{a} \right)$ D. $\sin^{-1} \left(\frac{x}{a} \right)$
60. Area covered by the curve $x^2 + y^2 = 4$ is ____.
61. A. 2π B. 4π
C. 16π D. 4

- વક્ર $x^2 + y^2 = 4$ દ્વારા ઘેરાયેલા પ્રદેશનું ક્ષેત્રફળ _____ થાય.
૫૫. A. 2π B. 4π
C. 16π D. 4
56. $\int e^{x^2} 2x dx = \text{_____} + c$.
A. e^{x^2} B. e^{2x}
C. e^x D. None of this
૫૬. $\int e^{x^2} 2x dx = \text{_____} + c$.
A. e^{x^2} B. e^{2x}
C. e^x D. આમાં નું એક પણ નહિં
57. $\int (\sec^2 x - \tan^2 x) dx = \text{_____} + c$.
A. x B. $\sec^3 x + \tan^3 x$
C. $\sec x$ D. $\tan x$
૫૭. $\int (\sec^2 x - \tan^2 x) dx = \text{_____} + c$.
A. x B. $\sec^3 x + \tan^3 x$
C. $\sec x$ D. $\tan x$
58. $\int_1^2 \frac{2x}{x^2+1} dx = \text{_____}$.
A. $\log \frac{5}{2}$ B. $\log 2$
C. $\log 5$ D. $\log \frac{2}{5}$
૫૮. $\int_1^2 \frac{2x}{x^2+1} dx = \text{_____}$.
A. $\log \frac{5}{2}$ B. $\log 2$
C. $\log 5$ D. $\log \frac{2}{5}$
59. For the data 12, 11, 14, 13, 15 mean is _____.
A. 11 B. 65
C. 12 D. 13
૫૯. માહિતીના અવલોકનો 12, 11, 14, 13, 15 હોય તો મધ્યક _____ થશે.
A. 11 B. 65
C. 12 D. 13
60. For the data 52, 54, 53, 52, 55, 56, 52, 52, 54, 52 Mode is _____.
A. 52 B. 54
C. 53 D. 55
૬૦. માહિતીના અવલોકનો 52, 54, 53, 52, 55, 56, 52, 52, 54, 52 હોય તો બહુલક _____ થશે.
A. B.
C. D.
61. For the data 13, 11, 15, 23, 34, 32, 12, 23, 33 median is _____.
A. 23 B. 32
C. 34 D. 11
૬૧. માહિતીના અવલોકનો 13, 11, 15, 23, 34, 32, 12, 23, 33 હોય તો મધ્યસ્થ _____ થશે.
A. 23 B. 32
C. 34 D. 11
62. For information 5, 7, 10, 13, 12, 6, 17 mean deviation from mean is _____.
A. 4 B. 3.4
C. 3 D. None of above
૬૨. જો મહિતીનો મધ્યક 5, 7, 10, 13, 12, 6, 17 હોય તો મધ્યકથી સરેરાશ વિચલન _____.
A. 4 B. 3.4
C. 3 D. આમાં નું એક પણ નહિં
63. For information 11, 7, 9, 15, 13 standard deviation is ____.

- A. 2 B. 3
C. 2.8 D. None of above

જો માહિતીનાં અવલોકનો 11, 7, 9, 15, 13 હોય તો પ્રમાણિત વિચલન ____.

53. A. 2 B. 3
C. 2.8 D. આમાં નું એક પણ નહિં

The range of the data 17, 15, 25, 34, 32 is ____.

64. A. 18 B. 19
C. 34 D. 17

અવલોકનો 17, 15, 25, 34, 32 નો વિસ્તાર ____ થાય.

58. A. 18 B. 19
C. 34 D. 17

Mean of the first n natural number is ____.

65. A. $\frac{n}{2}$ B. $\frac{n-1}{2}$
C. $\frac{n}{2} + 1$ D. $\frac{n+1}{2}$

પ્રથમ n પ્રાકૃતિક સંખ્યાનો મધ્યક ____ છે.

54. A. $\frac{n}{2}$ B. $\frac{n-1}{2}$
C. $\frac{n}{2} + 1$ D. $\frac{n+1}{2}$

For the observations -5,5,-2,8,-8,6,0,-1 and -10, median = ____.

66. A. 0 B. 1
C. 2 D. -1

અવલોકનો -5,5,-2,8,-8,6,0,-1 અને -10 નો મધ્યસ્થ = ____ છે.

55. A. 0 B. 1
C. 2 D. -1

For 12 observations $\sum x_i = 102$ and $\sum x_i^2 = 1542$. Then the standard deviation of the observations is ____.

67. A. 38.33 B. 7.50
C. 56.25 D. 11.34

For 12 observations $\sum x_i = 102$ and $\sum x_i^2 = 1542$. Then the standard deviation of the observations is ____.

59. A. 38.33 B. 7.50
C. 56.25 D. 11.34

The median of the ordered observations 4,6,x,y,10 and 18 is 8. Then their mean is ____.

68. A. 9 B. 8
C. 10 D. 6

ચળતા ક્રમમાં ગોઠવેલા અવલોકનો 4,6,x,y,10 અને 18 નો મધ્યસ્થ 8 છે, તો તેમનો મધ્યક

56. = ____ થાય.

- A. 9 B. 8
C. 10 D. 6

For the data 15, 12, 14, a, 6, 18, 10 median is 11 then a = ____.

69. A. 14 B. 11
C. 6 D. 0

માહિતીનાં અવલોકનો 15, 12, 14, a, 6, 18, 10 નો મધ્યસ્થ 11 હોય તો a = ____.

57. A. 14 B. 11
C. 6 D. 0

For information mean is 1.43 and median is 1.32 then mode is ____.

70. A. 1 B. 1.1
C. 1.2 D. 0.9

- જો મહિતીનો મધ્યક 1.43 અને મધ્યસ્થ 1.32 હોય તો બહુલક____.
૭૦. A. 1 B. 1.1
C. 1.2 D. 0.9
