

NTA CUET UG May and June 2025

Application No	
Candidate Name	
Roll No.	DL01116145
Test Date	22/05/2025
Test Time	3:00 PM - 6:00 PM
Subject	22MayShift2 Subject Combination 2

Section : Mathematics Section A

Q.1

The solution of the differential equation $\frac{dy}{dx} = (1+x^2)(1+y^2)$ is (Here C is an arbitrary constant)

1. $\tan^{-1} y + x + \frac{x^3}{3} = C$

2. $\tan^{-1} y - x - \frac{x^3}{3} = C$

3. $\tan^{-1} x - y - \frac{y^3}{3} = C$

4. $\tan^{-1} x + y + \frac{y^3}{3} = C$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699901

Option 1 ID : 2268952713678

Option 2 ID : 2268952713679

Option 3 ID : 2268952713680

Option 4 ID : 2268952713681

Status : Answered

Chosen Option : 3

Q.2

Let $A = \begin{bmatrix} 2 & 3 \\ 1 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & -6 \\ -2 & 4 \end{bmatrix}$, then

(A) $\det(A^T) = 1$

(B) $AB = I$, where I is the identity matrix of order 2.

(C) $A^{-1} = \begin{bmatrix} 2 & -3 \\ -1 & 2 \end{bmatrix}$

(D) $\text{adj}(B) = \begin{bmatrix} 4 & 2 \\ 6 & 4 \end{bmatrix}$

Choose the **correct** answer from the options given below:

1. (A) and (C) only
2. (B), (C) and (D) only
3. (A), (C) and (D) only
4. (A) and (B) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699892**

Option 1 ID : **2268952713642**

Option 2 ID : **2268952713643**

Option 3 ID : **2268952713644**

Option 4 ID : **2268952713645**

Status : **Answered**

Chosen Option : **3**

Q.3

If $A = \begin{bmatrix} x & 3 \\ 2 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 2 & 3 \\ y & 3 \end{bmatrix}$ and $C = \begin{bmatrix} z & 1 \\ 8 & 2 \end{bmatrix}$ are singular matrices then:

- (A) $x > y$
- (B) $y > z$
- (C) $z > x$
- (D) $x \neq y \neq z$

Choose the **correct** answer from the options given below:

- 1. (A) and (B) only
- 2. (B) and (C) only
- 3. (C) and (D) only
- 4. (D) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699891**

Option 1 ID : **2268952713638**

Option 2 ID : **2268952713639**

Option 3 ID : **2268952713640**

Option 4 ID : **2268952713641**

Status : **Not Answered**

Chosen Option : --

Q.4

The probability distribution of a random variable x is given below.

x	0	1	2	3
P(x)	$k/3$	$k/2$	$k/4$	$k/7$

Then the value of k is

1. $\frac{103}{84}$

2. $\frac{84}{103}$

3. $\frac{84}{102}$

4. $\frac{84}{101}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699903**

Option 1 ID : **2268952713686**

Option 2 ID : **2268952713687**

Option 3 ID : **2268952713688**

Option 4 ID : **2268952713689**

Status : **Answered**

Chosen Option : **2**

Q.5

The area (in sq. units) of the triangle whose vertices are $(0, 0)$, $(a, 0)$, $(0, b)$, is equal to

1. a^2
2. $|a b|$
3. $\frac{1}{2} |a b|$
4. b^2

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699894**

Option 1 ID : **2268952713650**

Option 2 ID : **2268952713651**

Option 3 ID : **2268952713652**

Option 4 ID : **2268952713653**

Status : **Answered**

Chosen Option : **3**



Q.6

The largest interval, in which the function $f(x) = x^3 + 2x^2 - 1$ is increasing, is:

1. $(0, \infty)$
2. $(-4, 4)$
3. $\left[\frac{-4}{3}, 0\right]$
4. $\left(-\infty, \frac{-4}{3}\right] \cup [0, \infty)$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699897**

Option 1 ID : **2268952713662**

Option 2 ID : **2268952713663**

Option 3 ID : **2268952713664**

Option 4 ID : **2268952713665**

Status : **Answered**

Chosen Option : **4**

Q.7

The solution set of inequality $3x + 5y < 4$ is

1. an open half plane not containing the origin
2. an open half plane containing the origin
3. the whole xy - plane not containing the line $3x+5y = 4$
4. a closed half plane containing the origin

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699905**

Option 1 ID : **2268952713694**

Option 2 ID : **2268952713695**

Option 3 ID : **2268952713696**

Option 4 ID : **2268952713697**

Status : **Answered**

Chosen Option : **2**

Q.8

If $A = \begin{bmatrix} 2 & 3 \\ 5 & -2 \end{bmatrix}$, be such that $A^{-1} = KA$, then the value of K is:

1. 19

2. $\frac{1}{19}$

3. 0

4. -19

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699893**

Option 1 ID : **2268952713646**

Option 2 ID : **2268952713647**

Option 3 ID : **2268952713648**

Option 4 ID : **2268952713649**

Status : **Answered**

Chosen Option : 1

Q.9

Area (in sq. units) of the region bounded by the curve $y^2 = 4x$, y -axis and the line $y = 3$ is

1. $\frac{9}{2}$

2. $\frac{9}{4}$

3. 2

4. $\frac{9}{3}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699900**

Option 1 ID : **2268952713674**

Option 2 ID : **2268952713675**

Option 3 ID : **2268952713676**

Option 4 ID : **2268952713677**

Status : **Answered**

Chosen Option : **2**



shiksha

Q.10

If $x = e^t$ and $y = e^{2t}$ then $\frac{d^2y}{dx^2} =$

1. $2x$

2. $2y$

3. 2

4. $\frac{1}{2x}$

Options

1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699895**

Option 1 ID : **2268952713654**

Option 2 ID : **2268952713655**

Option 3 ID : **2268952713656**

Option 4 ID : **2268952713657**

Status : **Answered**

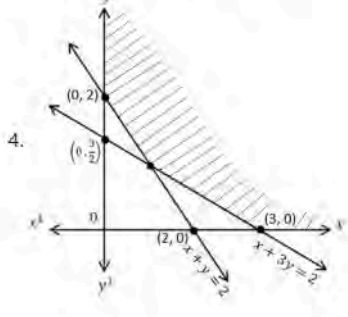
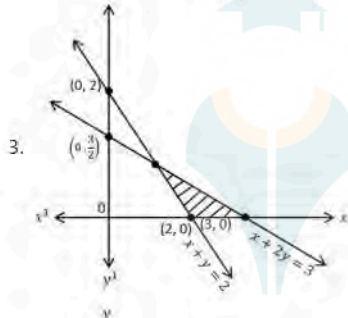
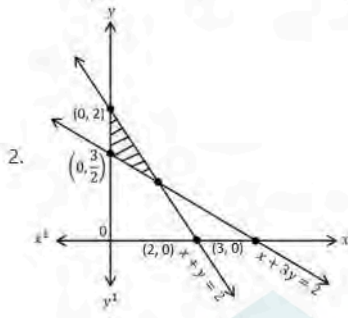
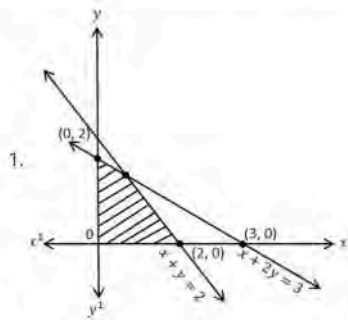
Chosen Option : **1**

Q.11

For LPP: Maximize $z = 2x + 3y$ subject to the constraints

$$x + y \geq 2, x + 2y \geq 3, x \geq 0, y \geq 0.$$

which of the following graph represents the feasible region of the above LPP as shaded portion?



Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699904**

Option 1 ID : **2268952713690**

Option 2 ID : **2268952713691**

Option 3 ID : **2268952713692**

Option 4 ID : **2268952713693**

Status : **Answered**

Chosen Option : **4**

Q.12

$$\int \frac{\sin 2x \, dx}{\sqrt{9 - \cos^4 x}} \text{ equals}$$

1. $\sin^{-1}\left(\frac{\cos^2 x}{3}\right) + C$: C is an arbitrary constant.
2. $\cos^{-1}\left(\frac{\sin^2 x}{3}\right) + C$: C is an arbitrary constant
3. $\sin\left(\frac{\cos^2 x}{3}\right) + C$: C is an arbitrary constant
4. $-\sin^{-1}\left(\frac{\cos^2 x}{3}\right) + C$: C is an arbitrary constant

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699898**

Option 1 ID : **2268952713666**

Option 2 ID : **2268952713667**

Option 3 ID : **2268952713668**

Option 4 ID : **2268952713669**

Status : **Not Answered**

Chosen Option : **--**

Q.13

$$\int_0^2 (|x| + |x - 2|) dx =$$

1. 8

2. 4

3. 2

4. $\frac{1}{2}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699899**

Option 1 ID : **2268952713670**

Option 2 ID : **2268952713671**

Option 3 ID : **2268952713672**

Option 4 ID : **2268952713673**

Status : **Answered**

Chosen Option : **2**

Q.14

The maximum value of $\left(\frac{1}{x}\right)^x$ for $x > 0$ is

1. e

2. $e^{1/e}$

3. $\left(\frac{1}{e}\right)^{1/e}$

4. e^e

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699896**

Option 1 ID : **2268952713658**

Option 2 ID : **2268952713659**

Option 3 ID : **2268952713660**

Option 4 ID : **2268952713661**

Status : **Not Answered**

Chosen Option : --

Match **List-I** with **List-II**

List-I	List-II
Differential Equation	Order and Degree
(A) $\left(\frac{d^2y}{dx^2}\right)^2 - e^x \left(\frac{dy}{dx}\right)^4 + 1 = 0$	(I) order = 1 and degree = 2
(B) $\left(\frac{dy}{dx}\right)^2 + xy = 0$	(II) order = 2 and degree = 1
(C) $\left(1 + \frac{dy}{dx}\right)^{3/2} = 4 \left(\frac{d^2y}{dx^2}\right)^2$	(III) order = 2 and degree = 2
(D) $\sqrt{\frac{d^2y}{dx^2} + 1} = \frac{dy}{dx}$	(IV) order = 2 and degree = 4

Choose the **correct** answer from the options given below:

- (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
- (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
- (A) - (III), (B) - (I), (C) - (II), (D) - (IV)
- (A) - (II), (B) - (I), (C) - (III), (D) - (IV)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**Question ID : **226895699902**Option 1 ID : **2268952713682**Option 2 ID : **2268952713683**Option 3 ID : **2268952713684**Option 4 ID : **2268952713685**Status : **Answered**Chosen Option : **1**

Q.16

Match **List-I** with **List-II**

List-I	List-II
Equation of line	Information
(A) $\vec{r} = (3\hat{i} - 2\hat{j} + \hat{k}) + \lambda(\hat{j} - 2\hat{k})$	(I) Direction ratios are 2, 4, -1
(B) $\frac{2-x}{1} = \frac{2y+1}{4}, z = 2$	(II) Perpendicular to $2\hat{i} - \hat{j} + \hat{k}$
(C) $\frac{x}{1} = \frac{y-3}{2} = \frac{3-4z}{2}$	(III) Passing through the point (3, -2, 1)
(D) $\vec{r} = (3\hat{i} + 2\hat{j} + \hat{k}) + \lambda(2\hat{i} + \hat{j} - 3\hat{k})$	(IV) Direction ratios are -1, 2, 0

Choose the **correct** answer from the options given below:

- (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
- (A) - (I), (B) - (IV), (C) - (II), (D) - (III)
- (A) - (III), (B) - (IV), (C) - (II), (D) - (I)
- (A) - (IV), (B) - (III), (C) - (II), (D) - (I)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699932**

Option 1 ID : **2268952713802**

Option 2 ID : **2268952713803**

Option 3 ID : **2268952713804**

Option 4 ID : **2268952713805**

Status : **Answered**

Chosen Option : **1**

Q.17

If $P(A) = \frac{3}{10}$, $P(B) = \frac{2}{5}$ and $P(A \cup B) = \frac{3}{5}$, then the value of $P(B|A) + P(A|B)$ is:

1. $\frac{3}{4}$
2. $\frac{2}{3}$
3. $\frac{1}{6}$
4. $\frac{7}{12}$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699937**

Option 1 ID : **2268952713822**

Option 2 ID : **2268952713823**

Option 3 ID : **2268952713824**

Option 4 ID : **2268952713825**

Status : **Answered**

Chosen Option : **4**

Q.18

Area of the bounded region between the curve $y = |x - 2|$ and the line $y = 2$ is:

1. 2 square units
2. 4 square units
3. 6 square units
4. 8 square units

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699925**

Option 1 ID : **2268952713774**

Option 2 ID : **2268952713775**

Option 3 ID : **2268952713776**

Option 4 ID : **2268952713777**

Status : **Answered**

Chosen Option : **4**

Q.19

If A^{-1} exists for the matrix $A = \begin{bmatrix} 1 & \lambda & -1 \\ -1 & 1 & 0 \\ \lambda & 1 & 1 \end{bmatrix}$ then

1. $\lambda = -1$
2. $\lambda \neq -1$
3. $\lambda \neq 2$
4. $\lambda \neq 1$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699912**

Option 1 ID : **2268952713722**

Option 2 ID : **2268952713723**

Option 3 ID : **2268952713724**

Option 4 ID : **2268952713725**

Status : **Answered**

Chosen Option : 1

Q.20

Let A and B be 3x3 matrices such that $A \neq B$. If $A^3 = B^3$ and $A^2B = B^2A$, then the determinant of $A^2 + B^2$ is:

1. 1
2. 4
3. 0
4. -2

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699909**

Option 1 ID : **2268952713710**

Option 2 ID : **2268952713711**

Option 3 ID : **2268952713712**

Option 4 ID : **2268952713713**

Status : **Answered**

Chosen Option : 2

Match **List-I** with **List-II**

List-I	List-II
Differential Equation	Integrating Factor
(A) $\frac{dy}{dx} + 2xy = 1$	(I) x
(B) $x \frac{dy}{dx} + 2xy = 1$	(II) e^{2x}
(C) $x \frac{dy}{dx} + y = 1$	(III) x^2
(D) $x \frac{dy}{dx} + 2y = 2$	(IV) e^{x^2}

Choose the **correct** answer from the options given below:

1. (A) - (IV), (B) - (II), (C) - (III), (D) - (I)
2. (A) - (IV), (B) - (II), (C) - (I), (D) - (III)
3. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)
4. (A) - (II), (B) - (IV), (C) - (III), (D) - (I)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**Question ID : **226895699926**Option 1 ID : **2268952713778**Option 2 ID : **2268952713779**Option 3 ID : **2268952713780**Option 4 ID : **2268952713781**Status : **Not Answered**

Chosen Option : --

Q.22

A relation R on the set $A = \{1, 2, 3, \dots, 13, 14\}$ defined as $R = \{(x, y) : 3x - y = 0\}$ is

1. Reflexive and symmetric but not transitive
2. Neither reflexive nor transitive but symmetric
3. Neither symmetric nor transitive but reflexive
4. Neither reflexive nor symmetric nor transitive

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699906

Option 1 ID : 2268952713698

Option 2 ID : 2268952713699

Option 3 ID : 2268952713700

Option 4 ID : 2268952713701

Status : Answered

Chosen Option : 1

Q.23

If $\int_0^1 \frac{e^x}{1+x} dx = m$, then the value of $\int_0^1 \frac{e^x}{(1+x)^2} dx$ is :

1. $m - e + 1$
2. $\frac{m}{2} + e - 1$
3. $m - \frac{e}{2} + 1$
4. $m + \frac{e}{2} - 1$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699922

Option 1 ID : 2268952713762

Option 2 ID : 2268952713763

Option 3 ID : 2268952713764

Option 4 ID : 2268952713765

Status : Answered

Chosen Option : 3

Q.24

If $y = \log_e \left(\frac{e^2}{x^2} \right)$ for $x \neq 0$, then $\frac{d^2y}{dx^2}$ equals

1. $-\frac{1}{x}$

2. $-\frac{1}{x^2}$

3. $\frac{2}{x^2}$

4. $\frac{-2}{x^2}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699916**

Option 1 ID : **2268952713738**

Option 2 ID : **2268952713739**

Option 3 ID : **2268952713740**

Option 4 ID : **2268952713741**

Status : **Answered**

Chosen Option : **4**

Q.25

If A and B are independent events and $P(A) = \frac{1}{2}$, $P(B) = \frac{1}{3}$, then

Match **List-I** with **List-II**

List-I	List-II
(A) $P(A \cap B)$	(I) $\frac{1}{2}$
(B) $P(\bar{A})P(B) + P(A)P(\bar{B})$	(II) $\frac{1}{3}$
(C) $P(A B) + P(B A)$	(III) $\frac{1}{6}$
(D) $P(A \cap \bar{B})$	(IV) $\frac{5}{6}$

Choose the **correct** answer from the options given below:

1. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
2. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
3. (A) - (IV), (B) - (I), (C) - (III), (D) - (II)
4. (A) - (III), (B) - (II), (C) - (I), (D) - (IV)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699938**

Option 1 ID : **2268952713826**

Option 2 ID : **2268952713827**

Option 3 ID : **2268952713828**

Option 4 ID : **2268952713829**

Status : **Answered**

Chosen Option : **1**

Q.26

Two cards are drawn successively with replacement from a well-shuffled deck of 52 cards. The probability distribution of number of aces is given by:

1. x	0	1	2
P(x)	$\frac{24}{169}$	$\frac{1}{169}$	$\frac{144}{169}$

2. x	0	1	2
P(x)	$\frac{24}{169}$	$\frac{144}{169}$	$\frac{1}{169}$

3. x	0	1	2
P(x)	$\frac{144}{169}$	$\frac{24}{169}$	$\frac{1}{169}$

4. x	0	1	2
P(x)	$\frac{1}{169}$	$\frac{144}{169}$	$\frac{24}{169}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699940**

Option 1 ID : **2268952713834**

Option 2 ID : **2268952713835**

Option 3 ID : **2268952713836**

Option 4 ID : **2268952713837**

Status : **Answered**

Chosen Option : **3**

Q.27

Bag I contains 3 black and 2 white balls, Bag II contains 2 black and 4 white balls. A bag is selected at random and then a ball is drawn from it. The probability that the ball drawn is black is:

1. $\frac{7}{15}$
2. $\frac{11}{15}$
3. $\frac{14}{15}$
4. $\frac{13}{15}$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699939

Option 1 ID : 2268952713830

Option 2 ID : 2268952713831

Option 3 ID : 2268952713832

Option 4 ID : 2268952713833

Status : Not Answered

Chosen Option : --

Q.28

If a, b and c are distinct prime numbers then the value of $\begin{vmatrix} a-b & b-c & c-a \\ b-c & c-a & a-b \\ c-a & a-b & b-c \end{vmatrix}$ is equal to

1. 0
2. 1
3. $(a-b)(b-c)(c-a)$
4. $(a+b)(b+c)(c+a)$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699914

Option 1 ID : 2268952713730

Option 2 ID : 2268952713731

Option 3 ID : 2268952713732

Option 4 ID : 2268952713733

Status : Not Answered

Chosen Option : --

Q.29

Consider the LPP: Maximize $z = 5x + 3y$ subject to $3x + 5y \leq 15$, $5x + 2y \leq 10$, $x, y \geq 0$. The optimal feasible solution occurs at

1. (2,0) only
2. neither (2,0) nor $(\frac{20}{19}, \frac{45}{19})$
3. (0,3) only
4. $(\frac{20}{19}, \frac{45}{19})$ only

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699936**

Option 1 ID : **2268952713818**

Option 2 ID : **2268952713819**

Option 3 ID : **2268952713820**

Option 4 ID : **2268952713821**

Status : **Answered**

Chosen Option : 1

Q.30

If the minimum value of the objective function $Z = ax + by$ of an LPP occurs at two points (3, 5) and (5, 3), then

1. $b = 2a$
2. $a = 2b$
3. $a = b$
4. $a = -2b$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699935**

Option 1 ID : **2268952713814**

Option 2 ID : **2268952713815**

Option 3 ID : **2268952713816**

Option 4 ID : **2268952713817**

Status : **Answered**

Chosen Option : 3

Q.31

For any vector $\vec{a}$, the value of $|\vec{a} \times \hat{i}|^2 + |\vec{a} \times \hat{j}|^2 + |\vec{a} \times \hat{k}|^2$ is equal to:

1. $2|\vec{a}|^2$
2. $3|\vec{a}|^2$
3. $4|\vec{a}|^2$
4. $|\vec{a}|^2$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699930

Option 1 ID : 2268952713794

Option 2 ID : 2268952713795

Option 3 ID : 2268952713796

Option 4 ID : 2268952713797

Status : Answered

Chosen Option : 3

Q.32

The co-ordinates of the point where the line $\frac{x+3}{3} = \frac{y-1}{-1} = \frac{z-5}{-5}$ cuts yz -plane are:

1. (1, 0, 0)
2. (0, 0, 0)
3. (6, 0, 1)
4. (0, 2, 0)

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699934

Option 1 ID : 2268952713810

Option 2 ID : 2268952713811

Option 3 ID : 2268952713812

Option 4 ID : 2268952713813

Status : Answered

Chosen Option : 1

Q.33

The maximum value of the determinant of the matrix $\begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 + \sin x & 1 \\ 1 + \cos x & 1 & 1 \end{bmatrix}$ is:

(where x is real)

1. $\sqrt{2}$

2. $\frac{1}{2}$

3. $\frac{\sqrt{3}}{2}$

4. $\sqrt{3}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699919**

Option 1 ID : **2268952713750**

Option 2 ID : **2268952713751**

Option 3 ID : **2268952713752**

Option 4 ID : **2268952713753**

Status : **Answered**

Chosen Option : **4**

Q.34

$$\int \frac{dx}{x^3 \sqrt{1+x^4}} =$$

1. $\frac{1}{4x^2} \sqrt{1+x^4} + C$, C is an arbitrary constant
2. $\frac{1}{x^2} \sqrt{1+x^4} + C$, C is an arbitrary constant
3. $\frac{1}{2x^2} \sqrt{1+x^4} + C$, C is an arbitrary constant
4. $-\frac{1}{2x^2} \sqrt{1+x^4} + C$, C is an arbitrary constant

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699921

Option 1 ID : 2268952713758

Option 2 ID : 2268952713759

Option 3 ID : 2268952713760

Option 4 ID : 2268952713761

Status : Not Answered

Chosen Option : --

Q.35

The particular solution of the differential equation $\left\{x \sin^2\left(\frac{y}{x}\right) - y\right\} dx + x dy = 0$, $y = \frac{\pi}{4}$ when $x = 1$ is

1. $x = e^{\tan \frac{y}{x} + 1}$

2. $x = e^{\tan \frac{y}{x} - 1}$

3. $x = e^{\cot \frac{y}{x} - 1}$

4. $x = e^{\cot \frac{y}{x} + 1}$

Options

1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699927**

Option 1 ID : **2268952713782**

Option 2 ID : **2268952713783**

Option 3 ID : **2268952713784**

Option 4 ID : **2268952713785**

Status : **Answered**

Chosen Option : **3**



Q.36

Match **List-I** with **List-II**

List-I	List-II
(A) A square matrix P is said to be non-singular if	(I) $ P = 0$
(B) A square matrix P is said to be singular if	(II) PP^T is symmetric
(C) If a matrix P is both symmetric and skew-symmetric, then	(III) $ P \neq 0$
(D) If P is a square matrix, then	(IV) P is a null matrix

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
3. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
4. (A) - (I), (B) - (IV), (C) - (II), (D) - (III)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699911**

Option 1 ID : **2268952713718**

Option 2 ID : **2268952713719**

Option 3 ID : **2268952713720**

Option 4 ID : **2268952713721**

Status : **Answered**

Chosen Option : **4**

Q.37

Acute angle between the lines $\frac{x}{3} = \frac{y}{4} = \frac{z}{5}$ and $\frac{x-1}{4} = \frac{y+1}{-3} = \frac{z+10}{5}$ is:

1. $\frac{\pi}{2}$

2. $\frac{\pi}{3}$

3. $\frac{\pi}{6}$

4. $\frac{\pi}{4}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699933

Option 1 ID : 2268952713806

Option 2 ID : 2268952713807

Option 3 ID : 2268952713808

Option 4 ID : 2268952713809

Status : Answered

Chosen Option : 3

Q.38

A boat 10 m high floating at a uniform speed of 13 meters per minute(m/min) away from a lamp post 15 m high. Then the rate at which the length of shadow of the boat increases is:

1. 26 m/min

2. 13 m/min

3. 52 m/min

4. 6.5 m/min

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699920

Option 1 ID : 2268952713754

Option 2 ID : 2268952713755

Option 3 ID : 2268952713756

Option 4 ID : 2268952713757

Status : Not Answered

Chosen Option : --

Q.39

If $P \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix} = \begin{bmatrix} -7 & -8 & -9 \\ 2 & 4 & 6 \end{bmatrix}$, then matrix P is equal to:

1. $\begin{bmatrix} 1 & 2 \\ -2 & 0 \end{bmatrix}$

2. $\begin{bmatrix} 1 & -2 \\ 2 & 0 \end{bmatrix}$

3. $\begin{bmatrix} 1 & 0 \\ 2 & -2 \end{bmatrix}$

4. $\begin{bmatrix} 1 & 2 \\ 2 & 0 \end{bmatrix}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699910

Option 1 ID : 2268952713714

Option 2 ID : 2268952713715

Option 3 ID : 2268952713716

Option 4 ID : 2268952713717

Status : Answered

Chosen Option : 4

Q.40

If $\vec{a} = 2\hat{i} + m\hat{j} - n\hat{k}$ and $\vec{b} = l\hat{i} - 3\hat{j} + 4\hat{k}$ such that $\vec{a} = 2\vec{b}$ then the value of $14l + m + n$ is:

1. 0

2. 1

3. 2

4. 4

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699931

Option 1 ID : 2268952713798

Option 2 ID : 2268952713799

Option 3 ID : 2268952713800

Option 4 ID : 2268952713801

Status : Not Answered

Chosen Option : --

Q.41

If the function $f(x) = \begin{cases} ax + 2 & , x \leq 1 \\ x^2 + 3x + b & , x > 1 \end{cases}$ is differentiable at $x = 1$, then the value of $(2a + b)$ is

1. 13
2. 11
3. 16
4. 8

Options

1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699915**

Option 1 ID : **2268952713734**

Option 2 ID : **2268952713735**

Option 3 ID : **2268952713736**

Option 4 ID : **2268952713737**

Status : **Answered**

Chosen Option : **2**

Q.42

If A and B are symmetric matrices of order 3×3 then the matrix $2AB - BA$ is:

1. a symmetric matrix
2. a skew-symmetric matrix
3. both symmetric and skew-symmetric matrix
4. nether symmetric nor skew-symmetric matrix

Options

1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699913**

Option 1 ID : **2268952713726**

Option 2 ID : **2268952713727**

Option 3 ID : **2268952713728**

Option 4 ID : **2268952713729**

Status : **Answered**

Chosen Option : **3**

Q.43

Match **List-I** with **List-II** (where c is an arbitrary constant)

List-I	List-II
(A) $\int \tan x \, dx$	(I) $\log \sec x + \tan x + c$
(B) $\int \cot x \, dx$	(II) $\log \sec x + c$
(C) $\int \sec x \, dx$	(III) $\log \sin x + c$
(D) $\int \operatorname{cosec} x \, dx$	(IV) $\log \operatorname{cosec} x - \cot x + c$

Choose the **correct** answer from the options given below:

- (A) - (II), (B) - (IV), (C) - (I), (D) - (III)
- (A) - (III), (B) - (II), (C) - (IV), (D) - (I)
- (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
- (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699923**

Option 1 ID : **2268952713766**

Option 2 ID : **2268952713767**

Option 3 ID : **2268952713768**

Option 4 ID : **2268952713769**

Status : **Not Answered**

Chosen Option : --

Q.44

If the function $f(x) = 2x^2 - kx + 7$, is increasing on $[1, 2]$, then k lies in the interval

1. $(-\infty, 8)$
2. $(-\infty, 4)$
3. $(4, \infty)$
4. $(8, \infty)$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699918

Option 1 ID : 2268952713746

Option 2 ID : 2268952713747

Option 3 ID : 2268952713748

Option 4 ID : 2268952713749

Status : Answered

Chosen Option : 1

Q.45

The area of the smaller region bounded by the ellipse $\frac{x^2}{16} + \frac{y^2}{9} = 1$ and the straight line $3x + 4y = 12$ is:

1. $(6\pi - 3)$ sq units
2. $(3\pi + 6)$ sq units.
3. $(6\pi + 3)$ sq units
4. $(3\pi - 6)$ sq units

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699924

Option 1 ID : 2268952713770

Option 2 ID : 2268952713771

Option 3 ID : 2268952713772

Option 4 ID : 2268952713773

Status : Answered

Chosen Option : 4

Q.46

let $\vec{a}$ be a non-zero vector of magnitude ' a ' and λ is a non-zero scalar, then $\lambda\vec{a}$ is a unit vector if

1. $\lambda = -1$
2. $a = \frac{1}{|\lambda|}$
3. $\lambda = 1$
4. $a = |\lambda|$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699929**

Option 1 ID : **2268952713790**

Option 2 ID : **2268952713791**

Option 3 ID : **2268952713792**

Option 4 ID : **2268952713793**

Status : **Answered**

Chosen Option : **2**

Q.47

Consider the function $f: \mathbb{R} \rightarrow \mathbb{R}$ defined by $f(x) = \frac{x}{x^2+1}$ then

1. f is one-one but not onto.
2. f is onto but not one-one
3. f is both one-one and onto
4. f is neither one-one nor onto

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699907**

Option 1 ID : **2268952713702**

Option 2 ID : **2268952713703**

Option 3 ID : **2268952713704**

Option 4 ID : **2268952713705**

Status : **Answered**

Chosen Option : **2**

Match **List-I** with **List-II**

Where $\mathbb{R}$ is set of real numbers

List-I	List-II
(A) $\sin x$ is continuous on:	(I) $\mathbb{R} - \{0\}$
(B) $\tan x$ is continuous on:	(II) $\mathbb{R}$
(C) $\cot x$ is continuous on:	(III) $\mathbb{R} - \{n\pi; n \in \mathbb{Z}\}$
(D) $x^{-n}, n \in \mathbb{N}$ is continuous on:	(IV) $\mathbb{R} - \left\{(2n+1)\frac{\pi}{2}; n \in \mathbb{Z}\right\}$

Choose the **correct** answer from the options given below:

- (A) - (I), (B) - (IV), (C) - (III), (D) - (II)
- (A) - (II), (B) - (IV), (C) - (III), (D) - (I)
- (A) - (I), (B) - (III), (C) - (IV), (D) - (II)
- (A) - (II), (B) - (III), (C) - (IV), (D) - (I)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699917

Option 1 ID : 2268952713742

Option 2 ID : 2268952713743

Option 3 ID : 2268952713744

Option 4 ID : 2268952713745

Status : Not Answered

Chosen Option : --

Q.49

The value of $\cot \left(\cos^{-1} \frac{7}{25} \right)$ is

1. $\frac{25}{24}$

2. $\frac{24}{25}$

3. $\frac{7}{25}$

4. $\frac{7}{24}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699908**

Option 1 ID : **2268952713706**

Option 2 ID : **2268952713707**

Option 3 ID : **2268952713708**

Option 4 ID : **2268952713709**

Status : **Answered**

Chosen Option : **4**

Q.50

If $\vec{a}, \vec{b}, \vec{c}$ are unit vectors such that $\vec{a} \cdot \vec{b} = \vec{a} \cdot \vec{c} = 0$, and the angle between $\vec{b}$ and $\vec{c}$ is $\frac{\pi}{6}$, then

1. $\vec{b} = \pm(\vec{a} \times \vec{c})$

2. $\vec{a} = \pm(\vec{b} \times \vec{c})$

3. $\vec{a} = \pm 2(\vec{b} \times \vec{c})$

4. $\vec{c} = \pm 2(\vec{a} \times \vec{b})$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699928**

Option 1 ID : **2268952713786**

Option 2 ID : **2268952713787**

Option 3 ID : **2268952713788**

Option 4 ID : **2268952713789**

Status : **Answered**

Chosen Option : **3**

Section : **Mathematics Section B2 Applied**

Q.51

The declared rate of return compounded semi annually equivalent to the effective rate of return 10.25% per annum is:

1. 10.13% p.a.

2. 9.89% p.a.

3. 10% p.a.

4. 10.05% p.a.

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699971**

Option 1 ID : **2268952713958**

Option 2 ID : **2268952713959**

Option 3 ID : **2268952713960**

Option 4 ID : **2268952713961**

Status : **Not Answered**

Chosen Option : **--**

Q.52

A boat covers a distance of 51 km downstream in 3 hours and takes $7\frac{2}{7}$ hours to cover the same distance upstream. If the boat's speed in still water is 12 km/hr, then the speed of the stream is:

1. 3 km/hr
2. 5 km/hr
3. 7 km/hr
4. 11 km/hr

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699943**

Option 1 ID : **2268952713846**

Option 2 ID : **2268952713847**

Option 3 ID : **2268952713848**

Option 4 ID : **2268952713849**

Status : **Not Answered**

Chosen Option : --

Q.53

Consider the matrices $A = \begin{bmatrix} 9 & 0 & 0 \\ 0 & 16 & 0 \\ 0 & 0 & 25 \end{bmatrix}$ and $B = \begin{bmatrix} 1/5 & 0 & 0 \\ 0 & 1/4 & 0 \\ 0 & 0 & 1/3 \end{bmatrix}$. The value of $|(AB)^{-1}|$ is

1. $\frac{15}{212}$
2. 60
3. $\frac{212}{15}$
4. $\frac{1}{60}$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699948**

Option 1 ID : **2268952713866**

Option 2 ID : **2268952713867**

Option 3 ID : **2268952713868**

Option 4 ID : **2268952713869**

Status : **Not Answered**

Chosen Option : --

Q.54

The values of ' a ' and ' b ' if the equation of straight line trend by least square method is given by $y = a + bx$ such that

$\sum x = 0$, $\sum y = 84$, $\sum xy = 108$, $\sum x^2 = 70$ for 6 observation as are:

1. $a = 0$; $b = 1.28$
2. $a = 14$; $b = 1.54$
3. $a = 11.6$; $b = 0$
4. $a = 14$; $b = 1.28$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699961**

Option 1 ID : **2268952713918**

Option 2 ID : **2268952713919**

Option 3 ID : **2268952713920**

Option 4 ID : **2268952713921**

Status : **Not Answered**

Chosen Option : --

Q.55

The maximum value of the objective function $Z = 10x + 15y$ of an L.P.P, subjected to the constraints

$$2x + 4y \leq 8,$$

$$3x + y \leq 6,$$

$$-x - y \geq -4,$$

$$x \geq 0, y \geq 0 \text{ is:}$$

1. 60
2. 38
3. 30
4. 34

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699975**

Option 1 ID : **2268952713974**

Option 2 ID : **2268952713975**

Option 3 ID : **2268952713976**

Option 4 ID : **2268952713977**

Status : **Not Answered**

Chosen Option : --

Q.56

The random variable X can take values 0, 1, 2. If $P(X=0)=P(X=1)=\alpha$, and $E(X^2)=E(X)$, then which of the following are correct?

(A) $E(X) = 2-3\alpha$

(B) $E(X^2) = 4+7\alpha$

(C) $\alpha = \frac{1}{2}$

(D) $\alpha = \frac{1}{5}$

Choose the **correct** answer from the options given below:

1. (A), (B) and (C) only
2. (A), (C) and (D) only
3. (B) and (C) only
4. (A) and (C) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699957**

Option 1 ID : **2268952713902**

Option 2 ID : **2268952713903**

Option 3 ID : **2268952713904**

Option 4 ID : **2268952713905**

Status : **Not Answered**

Chosen Option : --

Q.57

The value of $\begin{vmatrix} 7! & 8! & 9! \\ 8! & 9! & 10! \\ 9! & 10! & 11! \end{vmatrix}$ is :

1. $2 \times 9! \times 10! \times 11!$

2. $2 \times 8! \times 9! \times 10!$

3. $2 \times 7! \times 8! \times 9!$

4. $2 \times 10! \times 11!$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699951**

Option 1 ID : **2268952713878**

Option 2 ID : **2268952713879**

Option 3 ID : **2268952713880**

Option 4 ID : **2268952713881**

Status : **Not Answered**

Chosen Option : --

Q.58

The area bounded by $y = 3x + 1$, $x = 0$, $y = 0$ and $x = a$ is 8 Sq.units. Then value of a (where $a > 0$) is

- 1. 1
- 2. 2
- 3. 3
- 4. $8/3$

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **226895699956**

Option 1 ID : **2268952713898**

Option 2 ID : **2268952713899**

Option 3 ID : **2268952713900**

Option 4 ID : **2268952713901**

Status : **Not Answered**

Chosen Option : --



Q.59

Which of the following statements are true?

(A) The function $f(x) = \frac{x^4}{4} - \frac{4}{3}x^3 + \frac{x^2}{2} + 6x$ has 3 critical points.

(B) The function $f(x) = |x| + 3$ has no minimum value.

(C) A local maximum value is always the absolute maximum value.

(D) $f(x) = x^2$ has minima at $x=0$.

Choose the **correct** answer from the options given below:

1. (A) and (B) only
2. (B) and (C) only
3. (A) and (D) only
4. (A), (B) and (C) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699955**

Option 1 ID : **2268952713894**

Option 2 ID : **2268952713895**

Option 3 ID : **2268952713896**

Option 4 ID : **2268952713897**

Status : **Not Answered**

Chosen Option : --

Q.60

If $\int \frac{2x-5}{(2x-3)^3} e^{2x} dx = \frac{\lambda e^{2x}}{(2x-3)^2} + C$, where C is an arbitrary constant then the value of λ is

1. $\frac{1}{2}$

2. 2

3. -2

4. $-\frac{1}{2}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699953

Option 1 ID : 2268952713886

Option 2 ID : 2268952713887

Option 3 ID : 2268952713888

Option 4 ID : 2268952713889

Status : Not Answered

Chosen Option : --

Q.61

At what rate of interest will the present value of a perpetuity of ₹ 500 payable at the end of every 6 months be ₹ 20,000?

1. 10% per annum

2. 20% per annum

3. 5% per annum

4. 7% per annum

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699973

Option 1 ID : 2268952713966

Option 2 ID : 2268952713967

Option 3 ID : 2268952713968

Option 4 ID : 2268952713969

Status : Not Answered

Chosen Option : --

Q.62

For a Binomial distribution, $B(n,p)$, where $p+q=1$, the sum and product of mean and variance are 8 and 12 respectively, when the value of n is:

1. 6
2. 9
3. 12
4. 16

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699959**

Option 1 ID : **2268952713910**

Option 2 ID : **2268952713911**

Option 3 ID : **2268952713912**

Option 4 ID : **2268952713913**

Status : **Not Answered**

Chosen Option : --

Q.63

Two pipes P and Q can fill a tank in 26 minutes and 52 minutes respectively. Both the pipes are opened together for some time and then pipe P is closed. If the tank is filled in 26 minutes, then after how many minutes pipe P is closed?

1. 19 minutes
2. 20 minutes
3. 13 minutes
4. 10 minutes

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699942**

Option 1 ID : **2268952713842**

Option 2 ID : **2268952713843**

Option 3 ID : **2268952713844**

Option 4 ID : **2268952713845**

Status : **Not Answered**

Chosen Option : --

Q.64

The rate of change of the area of a circle with respect to its radius r , when $r = 3\text{ cm}$, is:

1. $6\pi \text{ cm}^2/\text{cm}$
2. $4\pi \text{ cm}^2/\text{cm}$
3. $2\pi \text{ cm}^2/\text{cm}$
4. $3\pi \text{ cm}^2/\text{cm}$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699962**

Option 1 ID : **2268952713922**

Option 2 ID : **2268952713923**

Option 3 ID : **2268952713924**

Option 4 ID : **2268952713925**

Status : **Not Answered**

Chosen Option : --

Q.65

A 95% confidence interval for a population mean was reported to be 152 to 160, if sample standard deviation $\sigma = 15$, then sample size used in this study is (Given $Z_{0.025} = 1.96$)

1. 60
2. 50
3. 52
4. 54

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699965**

Option 1 ID : **2268952713934**

Option 2 ID : **2268952713935**

Option 3 ID : **2268952713936**

Option 4 ID : **2268952713937**

Status : **Not Answered**

Chosen Option : --

Match **List-I** with **List-II**

List-I	List-II
Example	Time-series component
(A) Labour strike	(I) Secular-trend
(B) Continuous decline in death rate	(II) Seasonal
(C) Rise in prices before Diwali	(III) Cyclical
(D) Rise and fall of the share -market	(IV) Irregular

Choose the **correct** answer from the options given below:

1. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
2. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
3. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)
4. (A) - (IV), (B) - (II), (C) - (III), (D) - (I)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**Question ID : **226895699963**Option 1 ID : **2268952713926**Option 2 ID : **2268952713927**Option 3 ID : **2268952713928**Option 4 ID : **2268952713929**Status : **Not Answered**

Chosen Option : --

Q.67

The curve $x = y^2$ and $xy = k$ cut orthogonally, then k^2 is equal to:

1. 1

2. $\frac{1}{2}$

3. $\frac{1}{4}$

4. $\frac{1}{8}$

Options

1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699954

Option 1 ID : 2268952713890

Option 2 ID : 2268952713891

Option 3 ID : 2268952713892

Option 4 ID : 2268952713893

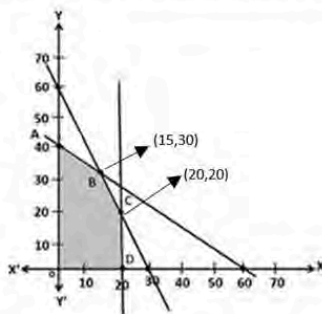
Status : Not Answered

Chosen Option : --

Q.68

From the below-mentioned graph of shaded feasible region of a linear programming problem (LPP) with objective function

$z = 1.50x + 1.00y$, the maximum value of z will be:-



1. 50
2. 52.5
3. 61.3
4. 72.4

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699974

Option 1 ID : 2268952713970

Option 2 ID : 2268952713971

Option 3 ID : 2268952713972

Option 4 ID : 2268952713973

Status : Not Answered

Chosen Option : --

Q.69

Rahul invested ₹ 20000 in a mutual fund in year 2018. If the value of mutual fund increased to ₹ 32000 in year 2023, Then the compound annual growth rate of his investment is : $\left[\text{given that } (1.6)^{\frac{1}{5}} = 1.098 \right]$

1. 10.5%
2. 9.4%
3. 9.8%
4. 8.8%

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699970

Option 1 ID : 2268952713954

Option 2 ID : 2268952713955

Option 3 ID : 2268952713956

Option 4 ID : 2268952713957

Status : Not Answered

Chosen Option : --

Q.70

Suppose X has Poisson distribution such that $3 P(X=1) = 2 P(X=2)$ then $P(X>0)$ is:

1. $1 - e^3$
2. $\frac{2}{3}e^3 - 1$
3. $1 - e^{-3}$
4. $\frac{2}{3}e^{-3} - 1$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699960

Option 1 ID : 2268952713914

Option 2 ID : 2268952713915

Option 3 ID : 2268952713916

Option 4 ID : 2268952713917

Status : Not Answered

Chosen Option : --

Q.71

Ajesh has set up a sinking fund in order to have ₹ 10,00,000 after 10 years for his son's education. The amount should be set aside at the end of every 6 months into an account paying 5% per annum compounded half yearly is: [given $(1.025)^{20} = 1.6386$]

1. ₹ 37438.8
2. ₹ 3,091.48
3. ₹ 39,148.1
4. ₹ 3914.00

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699969

Option 1 ID : 2268952713950

Option 2 ID : 2268952713951

Option 3 ID : 2268952713952

Option 4 ID : 2268952713953

Status : Not Answered

Chosen Option : --

Q.72

If $\begin{bmatrix} ab & cd \\ a+c & b+d \end{bmatrix} = \begin{bmatrix} 2 & -3 \\ 4 & 1 \end{bmatrix}$ where a, b, c, d are integers, then which of the following are true?

(A) $a + d = 0$

(B) $b + d = 3$

(C) $b + d = 1$

(D) $c + d = 2$

Choose the **correct** answer from the options given below:

1. (A), (B) and (C) only
2. (A), (C) and (D) only
3. (B) and (C) only
4. (B), (C) and (D) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699949**

Option 1 ID : **2268952713870**

Option 2 ID : **2268952713871**

Option 3 ID : **2268952713872**

Option 4 ID : **2268952713873**

Status : **Not Answered**

Chosen Option : --



shiksha

Q.73

A die is thrown 4 times and getting 3 is considered a success. The probability of 2 successes is :

1. $\frac{25}{1296}$

2. $\frac{1250}{72}$

3. $\frac{25}{216}$

4. $\frac{25}{72}$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699958**

Option 1 ID : **2268952713906**

Option 2 ID : **2268952713907**

Option 3 ID : **2268952713908**

Option 4 ID : **2268952713909**

Status : **Not Answered**

Chosen Option : --

Q.74

The unit's digit of 13^{13} is:

1. 2

2. 5

3. 3

4. 9

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **226895699945**

Option 1 ID : **2268952713854**

Option 2 ID : **2268952713855**

Option 3 ID : **2268952713856**

Option 4 ID : **2268952713857**

Status : **Not Answered**

Chosen Option : --

Q.75

Rajesh calculated 95% confidence level . What does he mean by that ?

- (A) He can be 95% confident that his sample will include the population parameter.
- (B) He can be 95% confused that his sample will include the population parameter.
- (C) He can be 5% confident that his sample will not include the population parameter.
- (D) He can be 5% confident that his sample will include the population parameter.

Choose the **correct** answer from the options given below:

- 1. (A) and (C) only
- 2. (B) and (C) only
- 3. (D) only
- 4. (A) and (B) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699966

Option 1 ID : 2268952713938

Option 2 ID : 2268952713939

Option 3 ID : 2268952713940

Option 4 ID : 2268952713941

Status : Not Answered

Chosen Option : --

Match **List-I** with **List-II**

List-I	List-II
Matrix Product	Order of resultant matrix
(A) $[a_{ij}]_{2 \times 3} \times [b_{ij}]_{3 \times 4}$	(I) 2×4
(B) $[a_{ij}]_{2 \times 1} \times [b_{ij}]_{1 \times 3}$	(II) Not possible
(C) $[a_{ij}]_{3 \times 2} \times [b_{ij}]_{3 \times 2}$	(III) 3×3
(D) $[a_{ij}]_{3 \times 3} \times [b_{ij}]_{3 \times 3}$	(IV) 2×3

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
2. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
3. (A) - (I), (B) - (IV), (C) - (II), (D) - (III)
4. (A) - (III), (B) - (II), (C) - (I), (D) - (IV)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**Question ID : **226895699950**Option 1 ID : **2268952713874**Option 2 ID : **2268952713875**Option 3 ID : **2268952713876**Option 4 ID : **2268952713877**Status : **Not Answered**

Chosen Option : --

Q.77

Which of the following are correct about t-test statistics?

- (A) The mean of t-test distribution is 0.
- (B) It depends on the degrees of freedom.
- (C) It depends on population standard deviation.
- (D) With more degrees of freedom, it closely resembles standard normal distribution.

Choose the **correct** answer from the options given below:

- 1. (A) and (B) only
- 2. (B), (C) and (D) only
- 3. (A), (B), (C) and (D)
- 4. (A), (B) and (D) only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **226895699967**

Option 1 ID : **2268952713942**

Option 2 ID : **2268952713943**

Option 3 ID : **2268952713944**

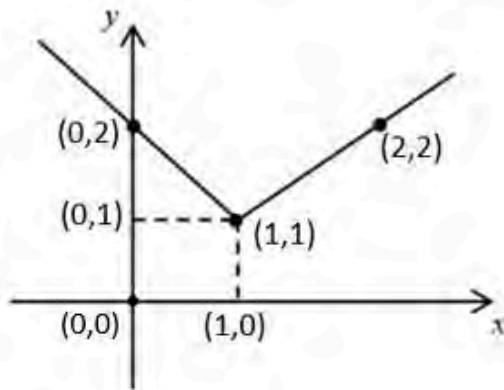
Option 4 ID : **2268952713945**

Status : **Not Answered**

Chosen Option : --

Q.78

The graph given below represents which of the following function?



1. $y = |x + 1|$
2. $y = |x + 1| + 1$
3. $y = |x - 1| + 1$
4. $y = |x + 1| - 1$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699946

Option 1 ID : 2268952713858

Option 2 ID : 2268952713859

Option 3 ID : 2268952713860

Option 4 ID : 2268952713861

Status : Not Answered

Chosen Option : --

Q.79

Match **List-I** with **List-II**

List-I	List-II
(A) Marginal average cost if cost function $C(x) = \frac{50}{\sqrt{x}}$	(I) $50\sqrt{x}$
(B) Marginal average cost if cost function $C(x) = 50\sqrt{x}$	(II) $-\frac{75}{x^2\sqrt{x}}$
(C) Revenue function if demand function $P = \frac{50}{\sqrt{x}}$	(III) $\frac{-25}{x\sqrt{x}}$
(D) Marginal revenue if demand function $P = 50\sqrt{x}$	(IV) $75\sqrt{x}$

Choose the **correct** answer from the options given below:

- (A) - (I), (B) - (IV), (C) - (II), (D) - (III)
- (A) - (III), (B) - (II), (C) - (I), (D) - (IV)
- (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
- (A) - (IV), (B) - (I), (C) - (II), (D) - (III)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 226895699952

Option 1 ID : 2268952713882

Option 2 ID : 2268952713883

Option 3 ID : 2268952713884

Option 4 ID : 2268952713885

Status : Not Answered

Chosen Option : --

Q.80

Anush takes a loan of ₹ 150000 @ 16% annual interest for 5 years. His EMI (Equally Monthly Installment) on monthly basis under flat rate system is:

1. ₹ 4500
2. ₹ 5000
3. ₹ 4800
4. ₹ 5400

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699972**

Option 1 ID : **2268952713962**

Option 2 ID : **2268952713963**

Option 3 ID : **2268952713964**

Option 4 ID : **2268952713965**

Status : **Not Answered**

Chosen Option : --

Q.81

Siyaram has 100 Kg apples, he sells a part of it at 8% profit and rest of it at 18% profit. The overall profit he earns is 14%. The quantity he sold at 18% profit is:

1. 71 Kg
2. 30 Kg
3. 60 Kg
4. 55 Kg

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699944**

Option 1 ID : **2268952713850**

Option 2 ID : **2268952713851**

Option 3 ID : **2268952713852**

Option 4 ID : **2268952713853**

Status : **Not Answered**

Chosen Option : --

Q.82

If it is 7:00 pm currently in the clock, what will the clock show (in am or pm) after 674 hours ?

1. 2 : 00 am
2. 2 : 00 pm
3. 9 : 00 am
4. 9 : 00 pm

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699941**

Option 1 ID : **2268952713838**

Option 2 ID : **2268952713839**

Option 3 ID : **2268952713840**

Option 4 ID : **2268952713841**

Status : **Not Answered**

Chosen Option : --

Q.83

If three year moving averages for five data items given by 16, 18, 20, 10, 21 are x,y and z respectively, then:

1. $x > y > z$
2. $y > x > z$
3. $y < z < x$
4. $z > y > x$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **226895699964**

Option 1 ID : **2268952713930**

Option 2 ID : **2268952713931**

Option 3 ID : **2268952713932**

Option 4 ID : **2268952713933**

Status : **Not Answered**

Chosen Option : --

Q.84

The solution of the system of equations $2x + \frac{1}{2}y - z = 1$, $2y = 3$, $x + 2z = 4$ is :

1. $x = 0.5$, $y = 1.5$, $z = 1.5$
2. $x = 0.9$, $y = 1.5$, $z = 1.5$
3. $x = 1.5$, $y = 1.55$, $z = 0.9$
4. $x = 0.9$, $y = 1.5$, $z = 1.55$

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699947

Option 1 ID : 2268952713862

Option 2 ID : 2268952713863

Option 3 ID : 2268952713864

Option 4 ID : 2268952713865

Status : Not Answered

Chosen Option : --

Q.85

A machine costing ₹ 36000 has an effective life of 5 years with scrap value of ₹ 5000 following a linear method of depreciation. Which of the following statements are **correct**?

- (A) The value of the machine after 1 year is ₹ 31000
- (B) The value of the machine after 2 years is ₹ 23600
- (C) The value of the machine after 3 years is ₹ 18400
- (D) The value of the machine after 4 years is ₹ 11200

Choose the **correct** answer from the options given below:

1. (A), (C) and (D) only
2. (B) and (C) only
3. (B) and (D) only
4. (C) and (D) only

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 226895699968

Option 1 ID : 2268952713946

Option 2 ID : 2268952713947

Option 3 ID : 2268952713948

Option 4 ID : 2268952713949

Status : Not Answered

Chosen Option : --