Andhra Pradesh State Council of Higher Education

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name :	Mathematical Sciences 11th June 2024 Shift 1
Subject Name :	Mathematical Sciences
Creation Date :	2024-06-11 12:26:12
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Mathematical Sciences

Group Number :	1
Group Id :	83094676
Group Maximum Duration :	0
Group Minimum Duration :	90
Show Attended Group? :	No
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Break time :	0
Group Marks :	100

Mathematical Sciences

Section Id :	83094676
Section Number :	1

Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100
Section Marks :	100
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	83094676
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 8309467501 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The number of idempotent elements in the ring $(\mathbb{Z}_6, +_6, \times_6)$ is

వలయం $(\mathbb{Z}_6, +_6, \times_6)$లోని అపరివర్తిత మూలకాల సంఖ్య

Options :

1. ✔ 4

2. ✖ 3

3. ✖ 2

4. ✖ 1

Question Number : 2 Question Id : 8309467502 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

A maximal ideal in the ring of integers $(\mathbb{Z}, +, \cdot)$ is

పూర్ణాంకాల వలయం $(\mathbb{Z}, +, \cdot)$లో అధికతమ ఆదర్శం

Options :

1. ✖

$8\mathbb{Z}$

2. ✖ $\{0\}$

3. ✖ $4\mathbb{Z}$

4. ✔ $2\mathbb{Z}$

Question Number : 3 Question Id : 8309467503 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The number of ideals in a field F other than $\{0\}$ is

ఒక క్షేత్రం F లో $\{0\}$ మినహా ఆదర్శాల సంఖ్య

Options :

1. ✔ 0

2. ✖ 1

3. ✖ 2

4. ✖ 3

Question Number : 4 Question Id : 8309467504 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $\vec{r} = 5t^4\vec{i} + 3t^3\vec{j} - 6t^2\vec{k}$, then $\left|\frac{d^2\vec{r}}{dt^2}\right|$ at t = 2 is

$\vec{r} = 5t^4\vec{i} + 3t^3\vec{j} - 6t^2\vec{k}$ అయితే t = 2 వద్ద $\left|\frac{d^2\vec{r}}{dt^2}\right| =$

Options :

1. ✖ $\sqrt{410}$

2. ✖ $3\sqrt{410}$

3. ✖ $6\sqrt{410}$

4. ✔ $12\sqrt{410}$

Question Number : 5 Question Id : 8309467505 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $a = 3x^2y + 2y^2z + z^2x$, then |grad a| at $(2, 1, 3)$ is

$a = 3x^2y + 2y^2z + z^2x$, అయితే $(2, 1, 3)$ వద్ద |grad a|=

Options :

1. ✖ $\sqrt{123}$

2. ✖ 37

3. ✔ $\sqrt{1213}$

4. ✖ 41

Question Number : 6 Question Id : 8309467506 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The directional derivative of the function $Q\,(x,y,z) = 2x+3y+4z$ at the point $(1,2,-1)$ in the direction of the vector $3\vec{i}-\vec{j}+\vec{k}$ is

సదిశ $3\vec{i}-\vec{j}+\vec{k}$ దిశలో $(1,2,-1)$ బిందువు వద్ద ప్రమేయం $Q\,(x,y,z) = 2x+3y+4z$ కి దైశిక వ్యుత్పన్నం

Options :

1. ✖ $\frac{17}{\sqrt{11}}$

2. ✔ $\frac{7}{\sqrt{11}}$

3. ✖ $\frac{-7}{\sqrt{11}}$

4. ✖ $\frac{-17}{\sqrt{11}}$

Question Number : 7 Question Id : 8309467507 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $\vec{f}(x,y,z) = 3x^2y^3\vec{i} + xyz^2\vec{j} + 3yz^2\vec{k}$, then at $(-1,1,1)$, $|curl\ \vec{f}| =$

$\vec{f}(x,y,z) = 3x^2y^3\vec{i} + xyz^2\vec{j} + 3yz^2\vec{k}$ అయితే బిందువు $(-1,1,1)$వద్ద $|curl\ \vec{f}| =$

Options :

1. ✔ $\sqrt{89}$

2. ✖ $\sqrt{93}$

3. ✖ $\sqrt{74}$

4. ✖ $\sqrt{77}$

Question Number : 8 Question Id : 8309467508 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $\vec{F} = 2xy\vec{i} + zy\vec{j} + x^2z\vec{k}$ and V is the region bounded by the surfaces

$x = 0, x = 1, y = 0, y = 2, z = x, z = x^2$ and

if $\int_V \vec{F} \cdot dV = a\vec{i} + b\vec{j} + c\vec{k}$, then $3a + 15b + 35c =$

$\vec{F} = 2xy\vec{i} + zy\vec{j} + x^2z\vec{k}$ మరియు V అనేది తలాలు $x = 0, x = 1, y = 0, y = 2, z = x,$

$z = x^2$ లచే ఆవరింపబడ్డ ప్రదేశం మరియు $\int_V \vec{F} \cdot dV = a\vec{i} + b\vec{j} + c\vec{k}$ అయితే

$3a + 15b + 35c =$

Options :

1. ✔ -5

2. ✖ 5

3. ✖ 20

4. ✖ -10

Question Number : 9 Question Id : 8309467509 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $x_n = \frac{n(n+1)(2n-1)}{(3+2n^2)(1+3n)}$ for all $n \in \mathbb{Z}^+$, then $\lim_{n\to\infty} x_n =$

ప్రతీ $n \in \mathbb{Z}^+$ కి, $x_n = \frac{n(n+1)(2n-1)}{(3+2n^2)(1+3n)}$ అయితే $\lim_{n\to\infty} x_n =$

Options :

1. ✔ $\frac{1}{3}$

2. ✖ $\frac{1}{6}$

3. ✖ 0

4. ✖ ∞

Question Number : 10 Question Id : 8309467510 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The limit of the sequence $\{x_n\}$ where $x_n = \left(1+\frac{3}{n(n+1)}\right)^{\frac{4}{n^2}}$ is

$x_n = \left(1+\frac{3}{n(n+1)}\right)^{\frac{4}{n^2}}$ అయితే అనుక్రమం $\{x_n\}$ యొక్క అవధి

Options :

1. ✖ 12

2. ✖ $\frac{1}{12}$

3. ✖ $e^{\frac{1}{12}}$

4. ✔ e^{12}

Question Number : 11 Question Id : 8309467511 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For all non-negative integers n, if $x_n = \frac{3^n}{n!}$, then $\sum_{n=0}^{\infty} x_n =$

ప్రతీ ఋణేతర పూర్ణాంకం n కి, $x_n = \frac{3^n}{n!}$ అయితే $\sum_{n=0}^{\infty} x_n =$

Options :

1. ✖ e

2. ✖ $\frac{1}{e}$

3. ✔ e^3

4. ✖ $\frac{1}{e^3}$

Question Number : 12 Question Id : 8309467512 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $(x^3 - 4xy - 2y^2)\,dx + (3y^2 - 4xy - 2x^2)dy = 0$ and $y(2) = 0$

then $x^4 - 8x^2y - 8y^2x + 4y^3 =$

$(x^3 - 4xy - 2y^2)dx + (3y^2 - 4xy - 2x^2)dy = 0$ మరియు $y(2) = 0$

అయితే $x^4 - 8x^2y - 8y^2x + 4y^3 =$

Options :

1. ✖ 4

2. ✖ 8

3. ✔ 16

4. ✖ 32

Question Number : 13 Question Id : 8309467513 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

An integrating factor of the differential equation

$x^2y\,dx - (x^3 + 2y^3)dy = 0$ is

అవకలన సమీకరణం $x^2ydx - (x^3 + 2y^3)dy = 0$ యొక్క ఒక సమాకలన గుణకం

Options :

1. ✖ $\frac{1}{2y^3}$

2. ✔ $\frac{-1}{2y^4}$

3. ✖ $\frac{-1}{2y^3}$

4. ✖ $\frac{1}{2y^4}$

Question Number : 14 Question Id : 8309467514 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation $(x^2y^2 + \frac{x}{y})\frac{dy}{dx} = 1$ is

$(x^2y^2 + \frac{x}{y})\frac{dy}{dx} = 1$ అనే అవకలన సమీకరణానికి సాధారణ సాధన

Options :

1. ✖ $xy^3 + 4y = c$

2. ✖ $xy^4 + y = cx$

3. ✔ $xy^4 + 4y = cx$

4. ✖ $xy^3 + y = c$

Question Number : 15 Question Id : 8309467515 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A particular integral of the differential equation $\frac{d^2y}{dx^2} - 4\frac{dy}{dx} + y = e^{2x}\cos 2x$

is

అవకలన సమీకరణం $\frac{d^2y}{dx^2} - 4\frac{dy}{dx} + y = e^{2x}\cos 2x$ కి ఒక ప్రత్యేక సమాకలని

Options :

1. ✖ $\frac{1}{7}e^{2x}\cos 2x$

2. ✖ $e^{2x}\left(\frac{1}{4} + \frac{1}{7}\cos 2x\right)$

3. ✔ $\frac{-e^{2x}\cos 2x}{7}$

4. ✖ $e^{2x}\left(\frac{1}{4} - \frac{1}{7}\cos 2x\right)$

Question Number : 16 Question Id : 8309467516 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $A = (2,3,4)$ and $B = (4,-5,-6)$ then the equation of the plane which bisects the segment AB perpendicularly is

$A = (2,3,4)$ మరియు $B = (4,-5,-6)$ లు రెండు బిందువులైతే, AB రేఖా ఖండాన్ని లంబంగా సమద్విఖండన చేసే తలానికి సమీకరణం

Options :

1. ✖ $x - 4y + 5z - 2 = 0$

2. ✖ $x - 4y - 5z + 6 = 0$

3. ✖ $x - 4y + 5z - 4 = 0$

4. ✔ $x - 4y - 5z - 12 = 0$

Question Number : 17 Question Id : 8309467517 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If θ is the acute angle between the pair of planes

$2x^2 - 6y^2 - 2z^2 + xy + 7yz = 0$, then $\tan\theta =$

$2x^2 - 6y^2 - 2z^2 + xy + 7yz = 0$ సమీకరణం సూచించే తలాల మధ్య లఘుకోణం θ అయితే

$\tan\theta =$

Options :

1. ✔

$\sqrt{\frac{11}{6}}$

$\sqrt{\frac{11}{17}}$

2. ✖

$\sqrt{\frac{6}{17}}$

3. ✖

$\sqrt{\frac{17}{6}}$

4. ✖

Question Number : 18 Question Id : 8309467518 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If (x_1, y_1, z_1) is the image of $(2, 0, 1)$ in the plane $x + 2y - z + 5 = 0$

then $2x_1 - y_1 + z_1 =$

తలం $x + 2y - z + 5 = 0$ లో బిందువు $(2, 0, 1)$ కి ప్రతిబింబం (x_1, y_1, z_1) అయితే

$2x_1 - y_1 + z_1 =$

Options :

-5

1. ✖

2. ✖ 5

3. ✔ 7

4. ✖ -7

Question Number : 19 Question Id : 8309467519 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The point of intersection of the line $\frac{x-5}{1} = \frac{y+3}{2} = \frac{z-1}{3}$ and the plane $2x + 3y - 4z + 7 = 0$ is

సరళరేఖ $\frac{x-5}{1} = \frac{y+3}{2} = \frac{z-1}{3}$ మరియు తలం $2x + 3y - 4z + 7 = 0$ ల ఖండన బిందువు

Options :

1. ✖ $(-6, 7, 4)$

2. ✔ $(6, -1, 4)$

3. ✖ $(-3, 5, 4)$

4. ✖ $(-6, -5, -5)$

Question Number : 20 Question Id : 8309467520 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The shortest distance between the skew lines $\frac{x-2}{1}=\frac{y-4}{3}=\frac{z+1}{-5}$ and $\frac{x+1}{-2}=\frac{y-1}{-1}=\frac{z}{4}$ is

స్కూ రేఖలు $\frac{x-2}{1}=\frac{y-4}{3}=\frac{z+1}{-5}$ మరియు $\frac{x+1}{-2}=\frac{y-1}{-1}=\frac{z}{4}$ ల మధ్య కనిష్ఠ దూరం

Options :

1. $\frac{34}{\sqrt{55}}$ ✖

2. $\frac{17}{\sqrt{55}}$ ✖

3. $\frac{17}{\sqrt{110}}$ ✖

4. $\frac{34}{\sqrt{110}}$ ✔

Question Number : 21 Question Id : 8309467521 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The center of the circle formed by the intersection of the sphere $x^2+y^2+z^2-2x+6y+8z-1=0$ and the plane $3x-y-2z=0$ is

గోళం $x^2+y^2+z^2-2x+6y+8z-1=0$ మరియు తలం $3x-y-2z=0$ ల ఛేదనం వల్ల ఏర్పడే వృత్త కేంద్రం

Options :

1. ✖ $(2,2,2)$

2. ✔ $(-2,-2,-2)$

3. ✖ $(1,1,1)$

4. ✖ $(-1,-1,-1)$

Question Number : 22 Question Id : 8309467522 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The equation of the sphere passing through the circle

$x^2 + y^2 + z^2 = 25, 3x + 4y - 5z - 13 = 0$ and the point $(1,2,-2)$ is

వృత్తం $x^2 + y^2 + z^2 = 25, 3x + 4y - 5z - 13 = 0$ మరియు బిందువు $(1,2,-2)$

గుండా పోయే గోళం సమీకరణం

Options :

1. ✖ $x^2 + y^2 + z^2 - 3x - 4y + 5z - 12 = 0$

2. ✖ $x^2 + y^2 + z^2 + 3x + 4y - 5z - 38 = 0$

3. ✔ $x^2 + y^2 + z^2 + 6x + 8y - 10z - 51 = 0$

4. ✖ $x^2 + y^2 + z^2 - 6x - 8y + 10z + 1 = 0$

Question Number : 23 Question Id : 8309467523 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The pole of the plane $2x + 3y - 4z - 5 = 0$ with respect to the sphere

$x^2 + y^2 + z^2 - 2x - 5 = 0$ is

గోళం $x^2 + y^2 + z^2 - 2x - 5 = 0$ దృష్ట్యా తలం $2x + 3y - 4z - 5 = 0$ యొక్క ధ్రువం

Options :

1. ✔ $(5, 6, -8)$

2. ✖ $(5, -6, 8)$

3. ✖ $(-5, 6, 8)$

4. ✖ $(5, 6, 8)$

Question Number : 24 Question Id : 8309467524 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the lines of intersection of the plane $4x - y - 5z = 0$ and the cone

$8yz + 3zx - kxy = 0$ are perpendicular to each other, then k =

తలం $4x - y - 5z = 0$ మరియు శంఖువు $8yz + 3zx - kxy = 0$ ల ఖండన రేఖలు

పరస్పరం లంబంగా ఉంటే k =

Options :

1. ✖ 25

2. ✔ 5

3. ✖ 15

4. ✖ -15

Question Number : 25 Question Id : 8309467525 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the plane $6x - 4y + z = 0$ touches the cone $4x^2 + y^2 + cz^2 = 0$,

then c =

$6x - 4y + z = 0$ అనే తలం, $4x^2 + y^2 + cz^2 = 0$ అనే శంఖువు ని స్పృశిస్తే c =

Options :

1. ✖ 25

2. ✖ $\frac{1}{25}$

3. ✖ -25

4. ✔ $\frac{-1}{25}$

Question Number : 26 Question Id : 8309467526 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the plane $3x + 12y - 6z = k$ touches the conicoid $3x^2 + 6y^2 + 9z^2 - 14 = 0$, then $k^2 =$

$3x + 12y - 6z = k$ అనే తలం, $3x^2 + 6y^2 + 9z^2 - 14 = 0$ అనే శాంకవజము ని స్పృశిస్తే $k^2 =$

Options :

1. ✖ 174

2. ✖ 328

3. ✔ 434

4. ✖ 238

Question Number : 27 Question Id : 8309467527 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a subspace of the vector space $\mathbb{R}^3(\mathbb{R})$

క్రింది వానిలో సదిశాంతరాళం $\mathbb{R}^3(\mathbb{R})$కి ఉపాంతరాళం అయ్యేది

Options :

1. ✖ $w = \{(x, y, z) \in \mathbb{R}^3 / xyz \text{ is an integer}\}$

2. ✖ $w = \{(x, y, z) \in \mathbb{R}^3 / xy = yz\}$

3. ✔ $w = \{(x, y, z) \in \mathbb{R}^3 / x + y = z\}$

$$w = \{(x, y, z) \in \mathbb{R}^3 / xy = z\}$$

4. ✖

Question Number : 28 Question Id : 8309467528 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a basis of the vector space $\mathbb{R}^3(\mathbb{R})$

క్రింది వానిలో సదిశాంతరాళం $\mathbb{R}^3(\mathbb{R})$ కు ఒక ఆధారం అయ్యేది

Options :

1. ✖ $\{(1, 1, 0), (0, 1, 1), (1, 2, 1)\}$

2. ✖ $\{(1, -1, 2), (2, 1, -1), (0, 3, -5)\}$

3. ✖ $\{(1, 2, 0), (2, -1, 1), (0, -5, 1)\}$

4. ✔ $\{(1, 1, 2), (1, 2, 1), (2, 2, 1)\}$

Question Number : 29 Question Id : 8309467529 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a linear transformation $T: \mathbb{R}^2 \to \mathbb{R}^3$

దిగువ నిచ్చిన $T: \mathbb{R}^2 \to \mathbb{R}^3$ లో ఒక ఋజు పరివర్తన అయ్యేది

Options :

1. ✖ $T(a, b) = (a, -b, 1)$

2. ✖ $T(a,b) = (2a,3,3b)$

3. ✔ $T(a,b) = (a+b,a-b,2a)$

4. ✖ $T(a,b) = (a,a+b,a+b+1)$

Question Number : 30 Question Id : 8309467530 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $T:\mathbb{R}^3 \to \mathbb{R}^3$ is a linear transformation defined by

$T(x,y,z) = (x,x+y,x+y+z)$ *for all* $(x,y,z) \in \mathbb{R}^3$

then $T^{-1}(a,b,c) =$

$T(x,y,z) = (x,x+y,x+y+z)$ అనే ఋజు పరివర్తన, ప్రతీ $(x,y,z) \in \mathbb{R}^3$ కి

$T:\mathbb{R}^3 \to \mathbb{R}^3$ కి నిర్వచింపబడితే $T^{-1}(a,b,c) =$

Options :

1. ✖ $(a,a+b,b+c)$

2. ✖ $(a,b-a,c-b-a)$

3. ✔ $(a,b-a,c-b)$

4. ✖ (c,b,a)

Question Number : 31 Question Id : 8309467531 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If V is an inner product space over the field $\mathbb{C}$ of complex numbers, then

for $\alpha, \beta \epsilon V, \| \alpha + \beta \|^2 - \| \alpha - \beta \|^2 =$

సంకీర్ణ సంఖ్యా క్షేత్రం $\mathbb{C}$ పై V ఒక అంతర్లబ్ధాంతరాళం, $\alpha, \beta \epsilon V$ ఐతే $\| \alpha + \beta \|^2 - \| \alpha - \beta \|^2 =$

Options :

1. ✖ $4 < \alpha, \beta >$

2. ✖ $2 < \alpha, \beta >$

3. ✔ $4\, Re < \alpha, \beta >$

4. ✖ $2\, Re < \alpha, \beta >$

Question Number : 32 Question Id : 8309467532 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If an inner product on the vector space $\mathbb{R}^2(\mathbb{R})$ is defined by

$< (x_1, y_1), (x_2, y_2) > = 8x_1x_2 + 6y_1y_2$ for any $(x_1, y_1), (x_2, y_2) \epsilon \mathbb{R}^2$

then $\| (3, 5) \| =$

ప్రతి $(x_1, y_1), (x_2, y_2) \epsilon \mathbb{R}^2$ కు సదిశాంతరాళం $\mathbb{R}^2(\mathbb{R})$ పై ఒక అంతర్లబ్ధాన్ని,

$< (x_1, y_1), (x_2, y_2) > = 8x_1x_2 + 6y_1y_2$ గా నిర్వచిస్తే $\| (3, 5) \| =$

Options :

1. ✖

$\sqrt{172}$

2. ✖ 172

3. ✔ $\sqrt{222}$

4. ✖ 222

Question Number : 33 Question Id : 8309467533 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The number of non-zero zero divisors in the ring $(\mathbb{Z}_8, +_8, \times_8)$ is

వలయం $(\mathbb{Z}_8, +_8, \times_8)$ లో శూన్యేతర శూన్యభాజకాల సంఖ్య

Options :

1. ✖ 4

2. ✔ 2

3. ✖ 3

4. ✖ 1

Question Number : 34 Question Id : 8309467534 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A unit vector orthogonal to $(1,2,3)$ in the inner product space $\mathbb{R}^3(\mathbb{R})$ is

అంతర్లబ్ధాంతరాళం $\mathbb{R}^3(\mathbb{R})$ లో $(1,2,3)$ కి అభిలంబంగా ఉన్న ఒక యూనిట్ సదిశ

Options :

1. ✔ $\left(\frac{1}{\sqrt{6}}, \frac{-2}{\sqrt{6}}, \frac{1}{\sqrt{6}}\right)$

2. ✖ $\left(\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}, \frac{-1}{\sqrt{2}}\right)$

3. ✖ $\left(\frac{2}{\sqrt{6}}, \frac{1}{\sqrt{6}}, \frac{-1}{\sqrt{6}}\right)$

4. ✖ $\left(\frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}}\right)$

Question Number : 35 Question Id : 8309467535 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The number of commutative binary operations that can be defined on a set A with 5 elements is

5 మూలకాలున్న ఒక సమితి A పై నిర్వచింప గల వినిమయ యుగ్మ పరిక్రియల సంఖ్య

Options :

1. ✖ 2^{25}

2. ✖ 5^{25}

3. ✖ 2^{15}

4. ✔ 5^{15}

Question Number : 36 Question Id : 8309467536 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For $m, n \in \mathbb{Z}$, define m*n = m+n+27, then the inverse of -5 in the group $(\mathbb{Z}, *)$ is

$m, n \in \mathbb{Z}$ కి m*n = m+n+27 గా నిర్వచిస్తే, సమూహం $(\mathbb{Z}, *)$ లో -5 కి విలోమం

Options :

1. ✖ 5

2. ✖ 49

3. ✖ -5

4. ✔ -49

Question Number : 37 Question Id : 8309467537 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the group $\mathbb{C}^*$ of all non zero complex numbers under multiplication if $(8+i)(3-i)(4i-3)^{-1} = a+bi$ then $a^2+b^2 =$

గుణనం దృష్ట్యా శూన్యేతర సంకీర్ణ సంఖ్యల సమూహం $\mathbb{C}^*$లో

$(8+i)(3-i)(4i-3)^{-1} = a+bi$ అయితే, $a^2+b^2 =$

Options :

1. 26 ✔

2. $\frac{171}{25}$ ✖

3. $\frac{641}{25}$ ✖

4. 17 ✖

Question Number : 38 Question Id : 8309467538 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

If G is a cyclic group such that $O(G) = 225$ then the number of generators of G is

G ఒక చక్రీయ సమూహం, $O(G) = 225$ అయితే G యొక్క జనక మూలకాల సంఖ్య

Options :

1. 25 ✖

2. ✔

120

3. ✖ 75

4. ✖ 60

Question Number : 39 Question Id : 8309467539 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the field $(\mathbb{Z}_7, +_7, \times_7)$, *the value of* $(\bar{3} +_7 (\bar{4})^{-1}) \times_7 (\bar{5} +_7 (\bar{6})^{-1})$ is

క్షేత్రం $(\mathbb{Z}_7, +_7, \times_7)$ లో $(\bar{3} +_7 (\bar{4})^{-1}) \times_7 (\bar{5} +_7 (\bar{6})^{-1})$ యొక్క విలువ

Options :

1. ✖ $\bar{2}$

2. ✖ $\bar{4}$

3. ✖ $\bar{5}$

4. ✔ $\bar{6}$

Question Number : 40 Question Id : 8309467540 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The number of solutions of the equation $x^2 + x + \bar{3} = \bar{0}$ in the ring $(\mathbb{Z}_9, +_9, \times_9)$ is

వలయం $(\mathbb{Z}_9, +_9, \times_9)$లో $x^2 + x + \bar{3} = \bar{0}$ సమీకరణం కి సాధనాల సంఖ్య

Options :

1. ✖ 0

2. ✖ 1

3. ✔ 2

4. ✖ 3

Question Number : 41 Question Id : 8309467541 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the ring $\mathbb{Z}[\sqrt{-3}] = \{a + b\sqrt{-3} \mid a, b \in \mathbb{Z}\}$ then the gcd $(1+\sqrt{-3},\ 1 - \sqrt{-3})$ is

వలయం $\mathbb{Z}[\sqrt{-3}] = \{a + b\sqrt{-3} \mid a, b \in \mathbb{Z}\}$ లో gcd $(1+\sqrt{-3},\ 1 - \sqrt{-3}) =$

Options :

1. ✖ $2 + \sqrt{-3}$

2. ✖ 2

3. ✔ $2 - \sqrt{-3}$

4. ✖ 1

Question Number : 42 Question Id : 8309467542 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A prime ideal which is not a maximal in the ring of integers $(\mathbb{Z}, +, \cdot)$ is

వలయం $(\mathbb{Z}, +, \cdot)$ లో ప్రధాన ఆదర్శం అవుతూ అధికతమ ఆదర్శం కానిది

Options :

1. ✖ $\{2n \mid n \in \mathbb{Z}\}$

2. ✖ $\{0\}$

3. ✖ $\{3n \mid n \in \mathbb{Z}\}$

4. ✔ $\{4n \mid n \in \mathbb{Z}\}$

Question Number : 43 Question Id : 8309467543 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The number of prime ideals in a field is

ఒక క్షేత్రంలో ప్రధాన ఆదర్శాల సంఖ్య

Options :

1. ✖ Infinite

2. ✖ 2

3. ✔ 1

4. ✖ 0

Question Number : 44 Question Id : 8309467544 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $\vec{A} = 4t^2\vec{i} + 5t\vec{j} + 6\vec{k}$ and $\bar{B} = 3t\vec{i} + 2t^2\vec{j} + t^3\vec{k}$ then $\frac{d}{dt}(\bar{A} \times \bar{B})$ at t =1 is

$\vec{A} = 4t^2\vec{i} + 5t\vec{j} + 6\vec{k}$, $\bar{B} = 3t\vec{i} + 2t^2\vec{j} + t^3\vec{k}$ అయితే t =1 వద్ద $\frac{d}{dt}(\bar{A} \times \bar{B}) =$

Options :

1. ✖ $2\vec{i} + 5\vec{j} - \vec{k}$

2. ✔ $-4\vec{i} - 2\vec{j} + 2\vec{k}$

3. ✖ $-2\vec{i} - \vec{j} + \vec{k}$

4. ✖ $4\vec{j} + 3\vec{j} - 2\vec{k}$

Question Number : 45 Question Id : 8309467545 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For $n \in \mathbb{Z}^+$, if $x_n = \frac{1}{(2n-1)(2n+1)}$ then $\sum_{n=1}^{\infty} x_n =$

ప్రతీ $n \in \mathbb{Z}^+$కి, $x_n = \frac{1}{(2n-1)(2n+1)}$ అయితే $\sum_{n=1}^{\infty} x_n =$

Options :

1. ✖ $\frac{1}{4}$

2. ✔

$\frac{1}{2}$

3. ✖ $\frac{1}{6}$

4. ✖ 1

Question Number : 46 Question Id : 8309467546 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

$$\lim_{x \to 0} \frac{Tan\, x - x}{x^3} =$$

Options :

1. ✖ 0

2. ✖ ∞

3. ✔ $\frac{1}{3}$

4. ✖ $\frac{1}{6}$

Question Number : 47 Question Id : 8309467547 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $f(x)=\frac{7x^2+x-13}{2x^2+3x-7}$ for $x \neq 3$ is continuous at $x = 3$, then $f(3) =$

$x \neq 3$ కు $f(x)=\frac{7x^2+x-13}{2x^2+3x-7}$ గా నిర్వచింపబడిన ప్రమేయం $x = 3$ వద్ద అవిచ్ఛిన్నమైతే, $f(3) =$

Options :

1. ✖ $\frac{43}{15}$

2. ✖ $\frac{-43}{15}$

3. ✔ $\frac{53}{20}$

4. ✖ $\frac{-53}{20}$

Question Number : 48 Question Id : 8309467548 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $g(x) = \int_x^{x^2} \sqrt{1+t^2}\, dt$ then $\frac{dg}{dt}(1) =$

$g(x) = \int_x^{x^2} \sqrt{1+t^2}\, dt$ అయితే $\frac{dg}{dt}(1) =$

Options :

1. ✔ $\sqrt{2}$

2. ✖

$2\sqrt{2}$

3. ✖ $-\sqrt{2}$

4. ✖ $-2\sqrt{2}$

Question Number : 49 Question Id : 8309467549 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

$$\lim_{n\to\infty}\left(\frac{\sqrt{n^2-1^2}}{n^2}+\frac{\sqrt{n^2-2^2}}{n^2}+\frac{\sqrt{n^2-3^2}}{n^2}+\cdots+\frac{\sqrt{2n-1}}{n^2}\right)=$$

Options :

1. ✖ 0

2. ✖ ∞

3. ✖ $\frac{\pi}{2}$

4. ✔ $\frac{\pi}{4}$

Question Number : 50 Question Id : 8309467550 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

General solution of the differential equation $\sin x \frac{d^2y}{dx^2} + \cos x \frac{dy}{dx} = \sin x$ is

అవకలన సమీకరణం $\sin x \frac{d^2y}{dx^2} + \cos x \frac{dy}{dx} = \sin x$ కి సాధారణ సాధన

Options :

1. ✔ $y = \log_e \operatorname{cosec} x + C \log_e \tan \frac{x}{2} + D$

2. ✖ $y = \log_e \sin x + C \log_e (\operatorname{cosec} x - \cot x) + D$

3. ✖ $y = \log_e \operatorname{cosec} x + C \log_e (\operatorname{cosec} x + \cot x) + D$

4. ✖ $y = \log_e \sin x + C \log_e \tan \frac{x}{2} + D$

Question Number : 51 Question Id : 8309467551 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A particular integral of the differential equation $\frac{d^2y}{dx^2} - 3\frac{dy}{dx} + 2y = x^2e^{3x}$ is

అవకలన సమీకరణం $\frac{d^2y}{dx^2} - 3\frac{dy}{dx} + 2y = x^2e^{3x}$ కి ఒక ప్రత్యేక సమాకలని

Options :

1. ✔ $\frac{e^{3x}}{4}(2x^2 - 6x + 7)$

2. ✖

$$\frac{e^{3x}}{4}(2x^2-4x+5)$$

$$\frac{e^{3x}}{8}(x^2-6x+7)$$

3. ✖

$$\frac{e^{3x}}{8}(x^2-4x+5)$$

4. ✖

Question Number : 52 Question Id : 8309467552 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A variable plane which is at a constant distance of 8 units from the origin meets the coordinate axes in A, B, C, and the locus of the centroid of the tetrahedron OABC is $\frac{1}{x^2}+\frac{1}{y^2}+\frac{1}{z^2}=k$ then k =

మూల బిందువు నుండి 8 యూనిట్ల స్థిరదూరంలో ఉంటూ చలించే ఒక తలం నిరూపకాక్షాలను A, B, C బిందువుల వద్ద ఖండించినప్పుడు OABC చతుర్ముఖి యొక్క కేంద్రాభాసం యొక్క బిందు పథం $\frac{1}{x^2}+\frac{1}{y^2}+\frac{1}{z^2}=k$ అయితే k =

Options :

8

1. ✖

$$\frac{1}{8}$$

2. ✖

3. ✖

4

$\frac{1}{4}$

4. ✔

Question Number : 53 Question Id : 8309467553 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The locus of the point P where distance from the point $(2, 0, 1)$ is three times its distance from the plane $2x + y + 2z = 0$ is

$a_1x^2 + a_2y^2 + a_3z^2 + a_4xy + a_5yz + a_6zx + a_7x + a_8y + a_9z + a_{10} = 0$

then $\sum_{i=1}^{10} a_i =$

ఒక బిందువు $(2, 0, 1)$ నుంచి P కు గల దూరం తలం $2x + y + 2z = 0$ నుండి P కు

గల దూరానికి మూడు రెట్లయి, P యొక్క బిందు పథం

$a_1x^2 + a_2y^2 + a_3z^2 + a_4xy + a_5yz + a_6zx + a_{7x} + a_8y + a_9z + a_{10} = 0$

అయితే $\sum_{i=1}^{10} a_i =$

Options :

42

1. ✖

28

2. ✖

23

3. ✔

12

4. ✖

Question Number : 54 Question Id : 8309467554 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If θ is the acute angle between the pair of planes

$2x^2 + 2y^2 + 3z^2 - 7yz - 5zx + 5xy = 0$, then $\cos\theta =$

$2x^2 + 2y^2 + 3z^2 - 7yz - 5zx + 5xy = 0$ సూచించే తలాల మధ్య కోణం θ అయితే $\cos\theta =$

Options :

1. $\sqrt{\frac{7}{3}}$ ✖

2. $\frac{\sqrt{7}}{2\sqrt{3}}$ ✔

3. $\frac{7}{3}$ ✖

4. $\frac{7}{12}$ ✖

Question Number : 55 Question Id : 8309467555 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If (p,q,r) is the foot of the perpendicular from the point $(2,1,3)$ to the plane $x+2y+3z+1=0$ then $p^2+q^2+r^2=$

బిందువు $(2,1,3)$నుండి తలం $x+2y+3z+1=0$ కి గీసిన లంబ పాదం (p,q,r) అయితే $p^2+q^2+r^2=$

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 3

4. ✖ 4

Question Number : 56 Question Id : 8309467556 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The foot of the perpendicular from the point $(1,-2,3)$ to the line $\frac{x+5}{2}=\frac{y+1}{3}=\frac{z-1}{-1}$ is

బిందువు $(1,-2,3)$ నుండి సరళరేఖ $\frac{x+5}{2}=\frac{y+1}{3}=\frac{z-1}{-1}$ కి గీసిన లంబపాద బిందువు

Options :

1. ✖ $(3,2,1)$

2. ✖ $(-3,-2,1)$

3. ✖ $(3,2,0)$

4. ✔ $(-3,2,0)$

Question Number : 57 Question Id : 8309467557 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

If the equation of the sphere passing through the circle

$x^2 + y^2 + z^2 = 16,\ 4x - 2y + 6z - 3 = 0$ having its center on the plane

$x + y - 2z - 15 = 0$ *is* $x^2 + y^2 + z^2 + ax + by + cz + d = 0$

then $a + b + c + d =$

వృత్తం $x^2 + y^2 + z^2 = 16, 4x - 2y + 6z - 3 = 0$ గుండా పోతూ $x + y - 2z - 15 = 0$

తలంపై కేంద్రం గల గోళ సమీకరణం $x^2 + y^2 + z^2 + ax + by + cz + d = 0$ అయితే

$a + b + c + d =$

Options :

1. ✖ -31

2. ✖ 31

3. ✔ -1

4. ✖ 1

Question Number : 58 Question Id : 8309467558 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the polar line of $\frac{x-1}{2}=\frac{y-2}{3}=\frac{z-3}{4}$ with respect to the sphere $x^2+y^2+z^2=9$ is $\frac{x+27}{a}=\frac{y-18}{b}=\frac{z}{c}$ then $\frac{2a-3b}{c}=$

గోళం $x^2+y^2+z^2=9$ దృష్ట్యా సరళరేఖ $\frac{x-1}{2}=\frac{y-2}{3}=\frac{z-3}{4}$ యొక్క ధ్రువ రేఖ $\frac{x+27}{a}=\frac{y-18}{b}=\frac{z}{c}$ అయితే $\frac{2a-3b}{c}=$

Options :

1. ✔ 8

2. ✖ -8

3. ✖ -1

4. ✖ 1

Question Number : 59 Question Id : 8309467559 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the equation of the right circular cone whose vertex is the origin, axis is $\frac{x}{2}=\frac{y}{3}=\frac{z}{6}$ and semi vertical angle 45^0 is

$ax^2+by^2+cz^2+2hxy+2gzx+2fyz=0$

then $\frac{|h+g+f|}{a+b+c}=$

మూల బిందువు శీర్షంగానూ, సరళరేఖ $\frac{x}{2}=\frac{y}{3}=\frac{z}{6}$ అక్షంగానూ, శీర్షార్ధకోణం 45^0 గానూ గల

లంబ వృత్తీయ శంఖువు సమీకరణం

$ax^2+by^2+cz^2+2hxy+2gzx+2fyz=0$ అయితే $\frac{|h+g+f|}{a+b+c}=$

Options :

1. $\frac{49}{72}$ ✖

2. $\frac{72}{49}$ ✔

3. $\frac{7}{9}$ ✖

4. $\frac{9}{7}$ ✖

Question Number : 60 Question Id : 8309467560 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If r is the radius of the right circular cylinder which passes through the point $(1,1,1)$ and whose axis is $x-3=z-1, y=0$ then $r^2=$

$(1,1,1)$ బిందువు గుండా పోతూ, సరళరేఖ $x-3=z-1,\ y=0$ అక్షంగా గల లంబవృత్తీయ స్థూపం వ్యాసార్ధం r అయితే, $r^2=$

Options :

1. ✖ $\frac{3}{\sqrt{2}}$

2. ✖ $6\sqrt{2}$

3. ✔ 3

4. ✖ $\frac{9}{2}$

Question Number : 61 Question Id : 8309467561 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If S and T are subsets of a vector space V(F), $L(S)$ and $L(T)$ are linear span of S and T respectively. Then which of the following statement is false.

ఒక సదిశాంతరాళం V(F) లో $L(S)\ L(T)$ వరుసగా S, T లకు ఋజు వ్యాప్తులైతే , క్రింది వానిలో ఏది అసత్య ప్రవచనం.

Options :

1. ✖ $S \subseteq T \Rightarrow L(S) \subseteq L(T)$

2. ✔ $L(S \cup T) = L(S) \cup L(T)$

3. ✖ $L(L(S)) = L(S)$

4. ✖ $L(S \cup T) = L(S) + L(T)$

Question Number : 62 Question Id : 8309467562 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If V is a vector space over a field F of dimension 12 and W_1, W_2 are subspaces of V(F) such that $\dim(W_1) = 8,\ \dim(W_2) = 9$ *and* $W_1 + W_2 = V$, then $\dim(W_1 \cap W_2) =$

క్షేత్రం F పై 12 పరిమాణంగా గల సదిశాంతరాళం V మరియు $\dim(W_1) = 8,\ \dim(W_2) = 9,$ $W_1 + W_2 = V$, అయ్యేటట్లు V(F) లో W_1, W_2లు ఉపాంతరాళాలయితే $\dim(W_1 \cap W_2) =$

Options :

1. ✖ 3

2. ✖ 4

3. ✔ 5

4. ✖ 6

Question Number : 63 Question Id : 8309467563 Question Type : MCQ Option Shuffling : No

Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

If $T:\mathbb{R}^2 \to \mathbb{R}$ is a linear transformation defined by $T(1,0) = 5$ and $T(1,1) = 7$, then $T(2,4) =$

ఒక ఋజు పరివర్తన $T:\mathbb{R}^2 \to \mathbb{R}$ ను $T(1,0) = 5,\ T(1,1) = 7$ గా నిర్వచిస్తే, $T(2,4) =$

Options :

1. ✔ 18

2. ✖ 14

3. ✖ 28

4. ✖ 24

Question Number : 64 Question Id : 8309467564 Question Type : MCQ Option Shuffling : No
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

If $T:\mathbb{R}^2 \to \mathbb{R}^2$ is the linear transformation defined by $T(x,y) = (x+y, x-y)$ for all $(x,y) \in \mathbb{R}^2$ then $T^{-1}(a,b) =$

ఒక ఋజు పరివర్తన $T:\mathbb{R}^2 \to \mathbb{R}^2$ ని ప్రతీ $(x,y,) \in \mathbb{R}^2$ కి $T(x,y) = (x+y, x-y)$ గా నిర్వచిస్తే, $T^{-1}(a,b) =$

Options :

1. ✖ $(a-b, a+b)$

2. ✖ $\left(\frac{a-b}{2}, \frac{a+b}{2}\right)$

$(a+b, a-b)$

3. ✖

$\left(\frac{a+b}{2}, \frac{a-b}{2}\right)$

4. ✔

Question Number : 65 Question Id : 8309467565 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If α, β are elements in an inner product space V over the field $\mathbb{C}$ of complex numbers, then $\|\alpha+\beta\|^2 - \|\alpha-\beta\|^2 + i\|\alpha+i\beta\|^2 - i\|\alpha-i\beta\|^2 =$

సంకీర్ణ సంఖ్యాక్షేత్రం $\mathbb{C}$ పై ఒక అంతర్లబ్ధాంతరాళం V లో α, β లు రెండు మూలకాలయితే, $\|\alpha+\beta\|^2 - \|\alpha-\beta\|^2 + i\|\alpha+i\beta\|^2 - i\|\alpha-i\beta\|^2 =$

Options :

$\langle \alpha, \beta \rangle$

1. ✖

$2\langle \alpha, \beta \rangle$

2. ✖

$3\langle \alpha, \beta \rangle$

3. ✖

$4\langle \alpha, \beta \rangle$

4. ✔

Question Number : 66 Question Id : 8309467566 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A unit vector orthogonal to $(3,4,5)$ in the inner product space $\mathbb{R}^3(\mathbb{R})$ is

అంతర్లబ్ధాంతరాళం $\mathbb{R}^3(\mathbb{R})$ లో $(3,4,5)$ కి అభిలంబంగా ఉన్న ఒక యూనిట్ సదిశ

Options :

1. ✖ $\left(\frac{1}{\sqrt{5}}, \frac{-2}{\sqrt{5}}, \frac{1}{\sqrt{5}}\right)$

2. ✔ $\left(\frac{2}{3}, \frac{1}{3}, \frac{-2}{3}\right)$

3. ✖ $\left(\frac{1}{3}, \frac{-2}{3}, \frac{1}{3}\right)$

4. ✖ $\left(\frac{2}{\sqrt{6}}, \frac{-1}{\sqrt{6}}, \frac{-1}{\sqrt{6}}\right)$

Question Number : 67 Question Id : 8309467567 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For $\alpha = (2-i, 3+i)$, $\beta = (2i-1, 3i+2)$ are elements in the inner product space $\mathbb{C}^2(\mathbb{C})$, then $\|\alpha\|^2 + \|\beta\|^2 =$

అంతర్లబ్ధాంతరాళం $\mathbb{C}^2(\mathbb{C})$ లో $\alpha = (2-i, 3+i)$, $\beta = (2i-1, 3i+2)$ లు

మూలకాలయితే $\|\alpha\|^2 + \|\beta\|^2 =$

Options :

1. ✖ 15

2. ✖ 18

3. ✔ 33

4. ✖ $3\sqrt{30}$

Question Number : 68 Question Id : 8309467568 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If V is an inner product space and (α, β, γ) is orthonormal set in V, then

$\|2\alpha + 3\beta + 4\gamma\|^2 =$

ఒక అంతర్లబ్ధాంతరాళం V లో (α, β, γ) ఒక లంబాభిలంబ సమితి అయితే $\|2\alpha + 3\beta + 4\gamma\|^2 =$

Options :

1. ✖ 9

2. ✖ 81

3. ✖ 23

4. ✔ 29

Question Number : 69 Question Id : 8309467569 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If φ is the Euler's function then $\varphi(360) =$

φ అనేది Euler's ప్రమేయం అయితే, అప్పుడు $\varphi(360) =$

Options :

1. 2340 ✖

2. 180 ✖

3. 96 ✔

4. 48 ✖

Question Number : 70 Question Id : 8309467570 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The sum of all distinct positive divisors of 1575 is

1575 యొక్క అన్ని విభిన్న ధనభాజకాల మొత్తం

Options :

1. 3224 ✔

2. 720 ✖

3. 144 ✖

4. 2332 ✖

Question Number : 71 Question Id : 8309467571 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $[x]$ denotes the integral part of x, then $[-\sqrt{348}] =$

$[x]$ అనేది x యొక్క పూర్ణాంక భాగాన్ని సూచిస్తే, $[-\sqrt{348}] =$

Options :

1. ✖ -17

2. ✖ -18

3. ✔ -19

4. ✖ -20

Question Number : 72 Question Id : 8309467572 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the symmetric group $(S_{10},\circ)$ of all bijections from the set $\{1,2,\ldots,10\}$ onto itself, if $f = (3594627)$ then $f^6(4) =$

సమితి $\{1,2,\ldots,10\}$ నుండి అదే సమితికి గల ద్విగుణ ప్రమేయాలన్నిటి సౌష్ఠవ సమూహం $(S_{10},\circ)$ లో

$f = (3594627)$ ఒక మూలకమైతే $f^6(4) =$

Options :

1. ✖ 6

2. ✖ 7

3. ✖ 3

4. ✔ 9

Question Number : 73 Question Id : 8309467573 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the field $(\mathbb{C}, +, \cdot)$ of complex numbers if $(2+3i)(4-i)^{-1} = a+bi$,

then $3a+5b$ =

సంకీర్ణ సంఖ్యా క్షేత్రం $(\mathbb{C}, +, \cdot)$ లో $(2+3i)(4-i)^{-1} = a+bi$ అయితే $3a+5b$ =

Options :

1. ✖ $\frac{15}{17}$

2. ✖ 3

3. ✖ $\frac{61}{17}$

4. ✔ 5

Question Number : 74 Question Id : 8309467574 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $(G,\cdot)$ is a commutative group of order 14 and $a, b \in G$, then the solution of the equation $x^3a^4 = b^3x^{-2}$ in G is

14 పరిమాణం గా గల వినమయ సమూహం $(G,\cdot)$ లో $a, b \in G$ అయితే G లో

$x^3a^4 = b^3x^{-2}$ అనే సమీకరణానికి సాధన

Options :

1. ✖ a^2b^4

2. ✖ a^4b^9

3. ✖ a^4b^2

4. ✔ a^2b^9

Question Number : 75 Question Id : 8309467575 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

In the group $(\mathbb{Z}_{10}, +_{10})$ of residue classes of integers modulo 10, a subgroup among the following is

10 మాపంగా పూర్ణాంకాల అవశేష వర్గాల సమూహం $(\mathbb{Z}_{10}, +_{10})$ లో క్రింది వానిలో ఉప సమూహమయ్యేది

Options :

1. ✔ $\{\bar{0}, \bar{2}, \bar{4}, \bar{6}, \bar{8}\}$

2. ✖

$\{\bar{0}, \bar{3}, \bar{6}, \bar{9}\}$

3. ✖ $\{\bar{0}, \bar{4}, \bar{8}\}$

4. ✖ $\{\bar{0}, \bar{2}, \bar{6}, \bar{8}\}$

Question Number : 76 Question Id : 8309467576 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the group $(\mathbb{Z}_{15}, +_{15})$ of residue classes of integers modulo 15, $(\bar{7} +_{15} \bar{5}) +_{15} \overline{12} =$

15 మాపంగా పూర్ణాంకాల అవశేష వర్గాల సమూహం $(\mathbb{Z}_{15}, +_{15})$ లో $(\bar{7} +_{15} \bar{5}) +_{15} \overline{12} =$

Options :

1. ✖ $\bar{0}$

2. ✔ $\bar{9}$

3. ✖ $\overline{19}$

4. ✖ $\overline{12}$

Question Number : 77 Question Id : 8309467577 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The number of solutions of the equation $4x = \bar{5}$ in the ring $(\mathbb{Z}_7, +_7, \times_7)$ is

వలయం $(\mathbb{Z}_7, +_7, \times_7)$ లో $4x = \bar{5}$ సమీకరణానికి గల సాధనాల సంఖ్య

Options :

1. ✖ 0

2. ✔ 1

3. ✖ 2

4. ✖ 3

Question Number : 78 Question Id : 8309467578 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If φ is the Euler's function then $\varphi(899) - \varphi(900) =$

φ అనేది Euler's ప్రమేయం అయితే, అప్పుడు $\varphi(899) - \varphi(900) =$

Options :

1. ✔ 600

2. ✖ 240

3. ✖ -1

4. ✖ 840

Question Number : 79 Question Id : 8309467579 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $\vec{u}(x,y,z) = 4xy^2z\vec{i} + 3x^2z\vec{j} + 4x^2z^2\vec{k}$ then at the point $(3,2,1)$, div $\vec{u}$ =

$\vec{u}(x,y,z) = 4xy^2z\vec{i} + 3x^2z\vec{j} + 4x^2z^2\vec{k}$ అయితే బిందువు $(3,2,1)$ వద్ద div $\vec{u}$ =

Options :

1. ✖ 56

2. ✖ -56

3. ✖ -88

4. ✔ 88

Question Number : 80 Question Id : 8309467580 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

If $\bar{r} = x\vec{i} + y\vec{j} + z\vec{k}$ and $\vec{a}, \vec{b}$ are constant vectors then div $((\bar{r} \times \vec{a}) \times \vec{b})$ =

$\bar{r} = x\vec{i} + y\vec{j} + z\vec{k}$ మరియు $\vec{a}, \vec{b}$ లు స్థిర సదిశలైతే, div $((\bar{r} \times \vec{a}) \times \vec{b})$ =

Options :

1. ✖ $2\,(\vec{a}.\vec{b})$

2. ✖ $\vec{a}.\vec{b}$

3. ✔ $-2\,(\vec{a}.\vec{b})$

4. ✖

$-(\vec{a}.\vec{b})$

Question Number : 81 Question Id : 8309467581 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $x_n = \frac{3n^2+5n+1}{3+2n^2}$ for $n \in \mathbb{Z}^+$ then $\lim_{n\to\infty} x_n =$

ప్రతీ $n \in \mathbb{Z}^+$ కి $x_n = \frac{3n^2+5n+1}{3+2n^2}$ అయితే $\lim_{n\to\infty} x_n =$

Options :

1. ✖ 3

2. ✔ $\frac{3}{2}$

3. ✖ $\frac{1}{3}$

4. ✖ ∞

Question Number : 82 Question Id : 8309467582 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The limit of the sequence $\{x_n\}$ where $x_n = (1+\frac{5}{n})^{\frac{n}{2}}$ is

$x_n = (1+\frac{5}{n})^{\frac{n}{2}}$ అయితే అనుక్రమము $\{x_n\}$ యొక్క అవధి

Options :

1. ✖

$\frac{5}{2}$

2. ✖ 10

3. ✔ $e^{5/2}$

4. ✖ e^{10}

Question Number : 83 Question Id : 8309467583 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For $n \in \mathbb{Z}^+$, *if* $x_n = \frac{1}{(n+1)(n+4)}$ *than* $\sum_{n=1}^{\infty} x_n =$

ప్రతి $n \in \mathbb{Z}^+$ కి $x_n = \frac{1}{(n+1)(n+4)}$ అయితే $\sum_{n=1}^{\infty} x_n =$

Options :

1. ✖ $\frac{1}{36}$

2. ✖ $\frac{7}{36}$

3. ✖ $\frac{11}{36}$

4. ✔

$$\frac{13}{36}$$

Question Number : 84 Question Id : 8309467584 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

$$\lim_{n\to\infty} \frac{1^2 + 2^2 + \cdots + n^2}{n^3} =$$

Options :

1. ✖ ∞

2. ✖ 0

3. ✖ $\frac{1}{2}$

4. ✔ $\frac{1}{3}$

Question Number : 85 Question Id : 8309467585 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The number of values of x in $\mathbb{R}$ at which the function $f:\mathbb{R}\to\mathbb{R}$ defined by $f(x) = |x-1| + |x| + |x+1|$ for all $x \in \mathbb{R}$, is discontinuous is

ప్రతి $x \in \mathbb{R}$ కి ఒక ప్రమేయం $f:\mathbb{R}\to\mathbb{R}$ ని $f(x) = |x-1| + |x| + |x+1|$

గా నిర్వచిస్తే, f విచ్ఛిన్నం అయ్యే బిందువులు ల సంఖ్య

Options :

1. ✔ 0

2. ✖ 1

3. ✖ 3

4. ✖ Infinite

Question Number : 86 Question Id : 8309467586 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

In the differential equation $\frac{d^2y}{dx^2} + P(x)\frac{dy}{dx} + Q(x)y = 0$ if $1 + P(x) + Q(x) = 0$, then a part of the complimentary function is

అవకలన సమీకరణం $\frac{d^2y}{dx^2} + P(x)\frac{dy}{dx} + Q(x)y = 0$ లో $1 + P(x) + Q(x) = 0$

అయితే పూరక ప్రమేయంలో ఒక భాగం

Options :

1. ✖ x

2. ✖

x^2

3. ✔ e^x

4. ✖ e^{-x}

Question Number : 87 Question Id : 8309467587 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

The equation of the plane passing through the point $(1, 2, 3)$ and perpendicular to the planes $2x + 3y - 4z + 5 = 0$ and $x - 2y + 3z - 4 = 0$ is

తలాలు $2x + 3y - 4z + 5 = 0$ మరియు $x - 2y + 3z - 4 = 0$ లకు లంబంగా ఉంటూ $(1, 2, 3)$ బిందువు గుండా పోయే తలానికి సమీకరణం

Options :

1. ✖ $x + 10y - 7z = 0$

2. ✖ $x + 10y + 8z = 45$

3. ✔ $x - 10y - 7z + 40 = 0$

4. ✖ $2x + 10y - 7z = 1$

Question Number : 88 Question Id : 8309467588 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

If the plane $3x + 4y + 2z - 5 = 0$ and the line $\frac{x-3}{4} = \frac{y-2}{-2} = \frac{z-1}{k}$ are parallel,

then k =

తలం $3x + 4y + 2z - 5 = 0$ మరియు సరళరేఖ $\frac{x-3}{4} = \frac{y-2}{-2} = \frac{z-1}{k}$ లు సమాంతరంగా ఉంటే k =

Options :

1. ✔ -2

2. ✖ 2

3. ✖ 1

4. ✖ -1

Question Number : 89 Question Id : 8309467589 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The radius of the circle formed by the intersection of the sphere

$x^2 + y^2 + z^2 - 2x + 8y - 6z + 1 = 0$ and the plane $2x + 3y - 6z + 7 = 0$

is

గోళం $x^2 + y^2 + z^2 - 2x + 8y - 6z + 1 = 0$ మరియు తలం $2x + 3y - 6z + 7 =$

0 ల ఛేదనం వలన ఏర్పడే వృత్త వ్యాసార్ధం

Options :

1. ✖ 6

2. ✖ 5

3. ✔ 3

4. ✖ 4

Question Number : 90 Question Id : 8309467590 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If W is the subspace of the vector space $\mathbb{R}^3(\mathbb{R})$ spanned by the set $S = \{(3, 1, 1), (2,0,1), (1,1,0), (1,-1,1)\}$, then an element of $\mathbb{R}^3$ which is not in W, among the following is

సదిశాంతరాళం $\mathbb{R}^3(\mathbb{R})$లోని ఉపసమితి $S = \{(3, 1, 1), (2,0,1), (1,1,0), (1,-1,1)\}$ యొక్క ఋజు వ్యాప్తి W అనే ఉపాంతరాళం అయితే, క్రింది వానిలో W లో లేని మూలకం

Options :

1. ✖ $(5,1,2)$

2. ✖ $(4,0,2)$

3. ✔ $(4,3,2)$

4. ✖ $(4,2,1)$

Question Number : 91 Question Id : 8309467591 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which one of the following is a linear transformation $T: \mathbb{R}^3 \to \mathbb{R}^3$?

దిగువ నిచ్చిన $T: \mathbb{R}^3 \to \mathbb{R}^3$లలో ఒక ఋజు పరివర్తన అయ్యేది ఏది?

Options :

1. ✔ $T(a,b,c) = (a, a+b, a+b+c)$

2. ✖ $T(a,b,c) = (a, ab, abc)$

3. ✖ $T(a,b,c) = (a+2b, 2a+b, a+b+c)$

4. ✖ $T(a,b,c) = (a+1, a-1, b+c\ )$

Question Number : 92 Question Id : 8309467592 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $T: \mathbb{R}^3 \to \mathbb{R}^3$ is a linear transformation defined by

$T(x,y,z) = (x+4y, 2x+z, y+2z)$ for all $(x,y,z) \in \mathbb{R}^3$, if

$T^{-1} = pT^2 + qT + rI$ where I is the identity transformation

then $p + 3q + 4r =$

ఒక ఋజు పరివర్తన $T: \mathbb{R}^3 \to \mathbb{R}^3$ ని ప్రతీ $(x,y,z) \in \mathbb{R}^3$ కి,

$T(x,y,z) = (x+4y, 2x+z, y+2z)$ గా నిర్వచిస్తే , మరియు $T^{-1} = pT^2 + qT + rI$,

I తత్సమ ఋజు పరివర్తన అయితే $p + 3q + 4r =$

Options :

1. ✖ $\frac{37}{16}$

2. ✖ -2

3. ✖ $\frac{-37}{16}$

4. ✔ 2

Question Number : 93 Question Id : 8309467593 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For $\alpha = (1+i, i, 1-i),\ \beta = (2i, 2+i, 1+2i)$ in the inner product space $\mathbb{C}^3(\mathbb{C}), \langle \alpha, \beta \rangle =$

అంతర్లబ్ధాంతరాళం $\mathbb{C}^3(\mathbb{C})$లోని మూలకాలు $\alpha = (1+i, i, 1-i),\ \beta = (2i, 2+i, 1+2i)$ లకు $\langle \alpha, \beta \rangle =$

Options :

1. ✔ $2-3i$

2. ✖ $2+3i$

3. ✖ $-2+3i$

4. ✖

$-2-3i$

Question Number : 94 Question Id : 8309467594 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If α, β, γ are the characteristic values of the linear transformation $T: \mathbb{R}^3 \to \mathbb{R}^3$ defined by $T(x,y,z) = (x+2y, x+y+z, 2x+y)$ for all $(x,y,z) \in \mathbb{R}^3$, then $\alpha\beta + \beta\gamma + \gamma\alpha =$

ఒక ఋజు పరివర్తన $T: \mathbb{R}^3 \to \mathbb{R}^3$, ప్రతీ $(x,y,z) \in \mathbb{R}^3$ కి, $T(x,y,z) = (x+2y, x+y+z, 2x+y)$ గా నిర్వచిస్తే మరియు T యొక్క లాక్షణిక విలువలు α, β, γ అయితే $\alpha\beta + \beta\gamma + \gamma\alpha =$

Options :

1. 2 ✖

2. -2 ✔

3. 5 ✖

4. -5 ✖

Question Number : 95 Question Id : 8309467595 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A binary operation on the set of integers $\mathbb{Z}$ among the following is $(m, n \in \mathbb{Z})$

క్రింది వానిలో పూర్ణాంకాలన్నిటి సమితి $\mathbb{Z}$ పై ఒక యుగ్మ పరిక్రియ అయ్యేది $(m, n \in \mathbb{Z})$

Options :

1. ✖ $$m * n = \frac{m+n}{m-n}$$

2. ✖ $$m * n = \sqrt{mn}$$

3. ✖ $$m * n = \frac{m+n}{2}$$

4. ✔ $$m * n = \frac{m(n+1)+n(m+1)+m+n}{2}$$

Question Number : 96 Question Id : 8309467596 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A group of order 15 is

15 మూలకాలు కలిగిన సమూహము

Options :

1. ✖ Non Abelian

అవినిమయం

2. ✖

Symmetric

సమరూప

Cyclic

3. ✔ చక్రీయ

Simple

4. ✖ సామాన్య

Question Number : 97 Question Id : 8309467597 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Let $G = \{1, w, w^2\}$ be the group of cube roots of 1 under multiplication. If we define a homomorphism $f: (\mathbb{Z}, +) \to (G, \circ)$ by $f(n) = w^n$ for all $n \in \mathbb{Z}$, then ker f=

గణనం దృష్ట్యా 1 యొక్కగణ మూలలా సమూహం $G = \{1, w, w^2\}$ అనుకుందాం. ఒక సమరూపత $f: (\mathbb{Z}, +) \to (G, \circ)$ ని ప్రతీ $n \in \mathbb{Z}$, కు $f(n) = w^n$ గా నిర్వచిస్తే ker f=

Options :

1. ✖ $\{0\}$

2. ✖ $\mathbb{Z}$

3. ✖ $2\mathbb{Z}$

4. ✔

$3\mathbb{Z}$

Question Number : 98 Question Id : 8309467598 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the symmetric group $(S_9, \circ)$ of all bijections from the set $\{1, 2, 3, 4, \ldots, 9\}$ on to itself, $(3\,1\,7\,6\,5) \circ (4\,5\,1\,8\,2)^{-1} =$

సమితి $\{1, 2, 3, 4, \ldots, 9\}$నుండి అదే సమితికి గల ద్విగుణ ప్రమేయాల సౌష్ఠవ సమూహ $(S_9, \circ)$ లో $(3\,1\,7\,6\,5) \circ (4\,5\,1\,8\,2)^{-1} =$

Options :

1. ✖ $(6\,5\,4\,2\,8\,7)$

2. ✖ $(1\,2\,3) \circ (8\,7\,6\,5\,4)$

3. ✖ $(1\,2) \circ (2\,8\,4\,6\,5)$

4. ✔ $(1\,3) \circ (2\,8\,7\,6\,5\,4)$

Question Number : 99 Question Id : 8309467599 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the symmetric group $(S_{12}, \circ)$ of bijections from the set $\{1, 2, 3, \ldots, 12\}$ on to itself, if $f = (3\,4\,9\,1\,11\,8\,7)$ then $f^5(7) =$

సమితి $\{1, 2, 3, \ldots, 12\}$ నుండి అదే సమితి $\{1, 2, 3, \ldots, 12\}$ కి గల ద్విగుణ ప్రమేయంలన్నింటి సౌష్ఠవ సమూహం $(S_{12}, \circ)$ లో $f = (3\,4\,9\,1\,11\,8\,7)$ ఒక మూలకమైతే $f^5(7) =$

Options :

1. ✖ 4

2. ✖ 9

3. ✔ 11

4. ✖ 8

Question Number : 100 Question Id : 8309467600 Question Type : MCQ Option Shuffling : No Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The number of units in the ring $(\mathbb{Z}_{12}, +_{12}, \times_{12})$ is

వలయం $(\mathbb{Z}_{12}, +_{12}, \times_{12})$ లో యూనిట్ల సంఖ్య

Options :

1. ✖ 1

2. ✖ 2

3. ✔ 4

4. ✖