Question Paper Preview

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 :	MScMathematics 19th Aug 2022 Shift 3
Subject Name :	M.Sc. Mathematics
Creation Date :	2022-08-19 19:18:54
Duration :	90
Total Marks :	100
Display Marks:	No
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No
Show Progress Bar :	No

M.Sc. Mathematics

Group Number :	1
Group Id :	90320183
Group Maximum Duration :	0
Group Minimum Duration :	90
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	100
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

PART A

Section Id :	903201113
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	903201130
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 9032018611 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\lim_{x \to 0} (\sin x \log x) =$

Options :

1. ✖ Does not exist
వ్యవస్థితము కాదు

2. ✔ 0

3. ✖ 1

4. ✖ e

Question Number : 2 Question Id : 9032018612 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\lim_{n \to \infty} (7^n + 22^n)^{1/n} =$

Options :

1. ✖ 20

2. ✖ 21

3. ✔ 22

4. ✖ 23

Question Number : 3 Question Id : 9032018613 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\limsup_{n\to\infty} \sin\left(\frac{n\pi}{3}\right) =$

Options :

1. ✖ 0

2. ✔ $\frac{\sqrt{3}}{2}$

3. ✖ $\frac{-\sqrt{3}}{2}$

4. ✖ ∞

Question Number : 4 Question Id : 9032018614 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following series is divergent
క్రింది శ్రేణులలో ఏది అపసరణ శ్రేణి

Options :

1. ✔ $\sum_{n=1}^{\infty} \frac{1}{\sqrt{n}}$

2. ✖ $\sum_{n=1}^{\infty} \frac{1}{n^{\frac{3}{2}}}$

3. ✖ $\sum_{n=1}^{\infty} \frac{n^3}{3^n}$

4. ✖ $\sum_{n=1}^{\infty} \frac{1}{n^n}$

Question Number : 5 Question Id : 9032018615 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Consider the following statements
క్రింది వాక్యములను పరిగణించుము

Let (x_n) be any sequence of real numbers
(x_n) అనేది వాస్తవ సంఖ్యల అనుక్రమము

(A) $x_n \to x \Leftrightarrow |x_n| \to |x|$

(B) $x_n \to 0 \Leftrightarrow |x_n| \to 0$

Now select the correct option.
సరియైన ఐచ్ఛికమును ఎంచుకోండి

Options :

1. ✖ Both A and B are false.
A, B లు రెండు తప్పు

2. ✖

Both A and B are True.
A, B లు రెండు సత్యమే

3. ✖ Only A is true.
A మాత్రమే సరియైనది

4. ✔ Only B is true.
B మాత్రమే సరియైనది

Question Number : 6 Question Id : 9032018616 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $f(x) = \frac{x}{|x|}$ if $x \neq 0$ and $f(x) = 1$ if $x = 0$, then f is
$f(x) = \frac{x}{|x|}$, $x \neq 0$ మరియు $f(x) = 1$, $x = 0$ అయితే, f అనేది

Options :

1. ✔ Continuous everywhere except at $x = 0$
0 వద్ద కాకుండా ప్రతిచోటా అవిచ్ఛిన్నము

2. ✖ Continuous everywhere
ప్రతిచోటా అవిచ్ఛిన్నము

3. ✖ f is differentiable at $x = 0$.
$x = 0$ వద్ద f అవకలనీయము

4. ✖ f is continuous but not differentiable at $x = 0$
f అవిచ్ఛిన్నము కాని $x = 0$ వద్ద అవకలనీయము కాదు

Question Number : 7 Question Id : 9032018617 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$f(x) = |x| + |x-1|$ is

$f(x) = |x| + |x-1|$ అనేది

Options :

1. ✖ Continuous and differentiable everywhere
ప్రతిచోట అవిచ్ఛిన్నము మరియు అవకలనీయము

2. ✖ Neither Continuous nor differentiable at 0 & 1
0, 1 వద్ద అవిచ్ఛిన్నము కాదు మరియు అవకలనీయము కాదు

3. ✖ Continuous and differentiable at 0 & 1
0, 1 వద్ద అవిచ్ఛిన్నము మరియు అవకలనీయము

4. ✔ Continuous but not differentiable at 0 & 1
0, 1 వద్ద అవిచ్ఛిన్నము కాని అవకలనీయము కాదు

Question Number : 8 Question Id : 9032018618 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$f(x) = \begin{cases} \sin\frac{2x}{x}, & x \neq 0 \\ 1 & x = 0 \end{cases}$$ has (అయినచో)

Options :

1. ✖

Discontinuity of first kind at x = 0
x = 0 వద్ద మొదటి రకము విచ్ఛిన్నము

2. ✖ Continuity at x = 0
x = 0 వద్ద అవిచ్ఛిన్నము

3. ✖ Discontinuity of second kind at x = 0
x = 0 వద్ద రెండవ రకము విచ్ఛిన్నము

4. ✔ Removable discontinuity at x = 0
x = 0 వద్ద నివార్య విచ్ఛిన్నము

Question Number : 9 Question Id : 9032018619 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A continuous function $f:[a,b] \to R$
$f:[a,b] \to R$ అనే అవిచ్ఛిన్న ప్రమేయము

Options :

1. ✔ is always bounded and attains its bounds
ఎల్లప్పుడు పరిబద్ధము మరియు హద్దులను కల్గిఉంటుంది.

2. ✖ is always unbounded
ఎల్లప్పుడు అపరిబద్ధము

3. ✖ Maybe bounded or unbounded
పరిబద్ధము లేక అపరిబద్ధము కావచ్చు

is always bounded but may not attain its bounds
ఎల్లప్పుడు పరిబద్ధము కాని హద్దులను కల్గి ఉండకపోవచ్చు

4. ✖

Question Number : 10 Question Id : 9032018620 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$$f(x) = \begin{cases} x^{-10}\cos\left(\frac{1}{x}\right), & x \neq 0 \\ 0 \quad , & x = 0 \end{cases}$$ is

Options :

1. ✖ Continuous at x = 0
x = 0 వద్ద అవిచ్ఛిన్నము

2. ✖ Differentiable at x = 0
x = 0 వద్ద అవకలనీయము

3. ✔ Discontinuous at x = 0
x = 0 వద్ద విచ్ఛిన్నము

4. ✖ Continuous & Differentiable at x = 0
x = 0 వద్ద అవిచ్ఛిన్నము మరియు అవకలనీయము

Question Number : 11 Question Id : 9032018621 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The function $f(x)=\begin{cases}\dfrac{x\left(e^{\frac{1}{x}}-1\right)}{e^{\frac{1}{x}}+1}, & x\neq 0\\ 0, & x=0\end{cases}$ is

$f(x)=\begin{cases}\dfrac{x\left(e^{\frac{1}{x}}-1\right)}{e^{\frac{1}{x}}+1}, & x\neq 0\\ 0, & x=0\end{cases}$ అను ప్రమేయము

Options :

1. ✖ Discontinuous at x = 0
x = 0 వద్ద విచ్ఛిన్నము

2. ✖ Differentiable at x = 0
x = 0 వద్ద అవకలనీయము

3. ✔ Continuous but not derivable at x = 0
x = 0 వద్ద అవిచ్ఛిన్నము కాని అవకలనీయముకాదు

4. ✖ Neither Continuous nor differentiable at x = 0
x = 0 వద్ద అవిచ్ఛిన్నము కాదు మరియు అవకలనీయము కాదు

Question Number : 12 Question Id : 9032018622 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The value of 'c' of Lagrange's mean value theorem, when $f(x) = 2x^2 + 3x + 4$ in [2,4] is
లెగ్రాంజెస్ మధ్యమ విలువ సిద్ధాంతంలో $f(x) = 2x^2 + 3x + 4$ అయితే, [2,4] లో 'c' యొక్క విలువ

Options :

1. ✖ $\frac{5}{4}$

2. ✔ $\frac{3}{2}$

3. ✖ $\frac{7}{4}$

4. ✖ $\frac{4}{3}$

Question Number : 13 Question Id : 9032018623 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is true
క్రింది వాక్యాలలో సరియైనది

Options :

1. ✔ Every convergent sequence is bounded
ప్రతి అభిసరణ అనుక్రమము పరిబద్ధము అవుతుంది

2. ✖ Every bounded sequence is convergent
ప్రతి పరిబద్ధ అనుక్రమము అభిసరిస్తుంది

3. ✖ A sequence having unique limit point is convergent
ఏకైక పరిమిత బిందువు ఉన్న అనుక్రమము అభిసరిస్తుంది.

4. ✖

Every bounded sequence with a unique limit point is divergent
ఏకైక పరిమిత బిందువు ఉన్న ప్రతి పరిబద్ధ అనుకరణము అపసరిస్తుంది.

Question Number : 14 Question Id : 9032018624 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Every continuous function is uniformly continuous if it is defined on
దేనిపై నిర్వచించబడితే, ప్రతి అవిచ్ఛిన్న ప్రమేయము ఏకరీతి అవిచ్ఛిన్న ప్రమేయము అవుతుంది.

Options :

1. ✖ R

2. ✖ (a, b)

3. ✖ $(-\infty, 0)$

4. ✔ $[a, b]$

Question Number : 15 Question Id : 9032018625 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let $f(x)$ be defined by $f(x) = \begin{cases} 0, & when\ x\ is\ rational \\ 1, & when\ x\ is\ irrational \end{cases}$

Then $\int_a^b f(x)dx =$

$f(x) = \begin{cases} 0, & x \quad \text{అకరణీయము} \\ 1, & x \quad \text{కరణీయము} \end{cases}$

గా నిర్వచించబడితే, $\int_a^b f(x)dx =$

Options :

1. ✖ 0

2. ✖ 1

3. ✖ $b-a$

4. ✔ Does not exist
వ్యవస్థితము కాదు

Question Number : 16 Question Id : 9032018626 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$\lim_{n\to\infty} \frac{1}{n}\left[\sin\frac{\pi}{n} + \sin\frac{2\pi}{n} + \cdots + \sin\frac{n\pi}{n}\right] =$

Options :

1. ✖ 0

2. ✖ ∞

3. ✖ $\frac{\pi}{2}$

4. ✔ $\frac{2}{\pi}$

Question Number : 17 Question Id : 9032018627 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let $P = \{0, 1, 1.5, 2, 3.4, 4\}$ be a partition of $[0,4]$. Then $\|P\| =$
$P = \{0, 1, 1.5, 2, 3.4, 4\}$ అనేది $[0, 4]$ పై విభజన అయితే, $\|P\| =$

Options :

1. ✖ 0.5

2. ✔ 1.4

3. ✖ 0.4

4. ✖ 0.6

Question Number : 18 Question Id : 9032018628 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $f(x) = \begin{cases} x, & when\ x\ is\ rational \\ -x, & when\ x\ is\ not\ rational \end{cases}$ over $[a, b]$. Then

$[a, b]$ పై $f(x) = \begin{cases} x, & x \text{ అకరణీయము} \\ -x, & x \text{ అకరణీయము కాదు} \end{cases}$ అయితే

Options :

1. ✖ f is integrable
f అనేది సమాకలనము

2. ✖ $|f|$ is not integrable
$|f|$ అనేది సమాకలనము కాదు

3. ✖ f is integrable but $|f|$ is not integrable
f సమాకలనము మరియు $|f|$ సమాకలనము కాదు

4. ✔ f is not integrable but $|f|$ is integrable.
f సమాకలనము కాదు కాని $|f|$ సమాకలనము అవుతుంది

Question Number : 19 Question Id : 9032018629 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following Statements is false?
ఈ క్రింది వాఖ్యాలలో ఏది తప్పు

Options :

1. ✖ If f is integral function on $[a, b]$, then f^2 is an integral function on $[a, b]$
$[a, b]$ పై f సమాకలన ప్రమేయము అయితే, f^2 కూడా సమాకలన ప్రమేయము అవుతుంది.

2. ✖

If f, g are integral functions on $[a, b]$, then fg is an integral function on $[a, b]$
$[a, b]$ పై f, g లు సమాకలన ప్రమేయాలు అయితే, fg కూడా సమాకలన ప్రమేయము అవుతుంది.

3. ✔ If $|f|$ is integral function in $[a, b]$, then f is integral function on [a, b]
$[a, b]$ పై $|f|$ సమాకలన ప్రమేయము అయితే, f సమాకలన ప్రమేయము అవుతుంది

4. ✖ If f, g are integral functions on [a,b], then max (f, g) is integral function on [a, b]
$[a, b]$ పై f, g లు సమాకలన ప్రమేయము అయితే, (f, g)ల గరిష్ఠ ప్రమేయము కూడా సమాకలనము అవుతుంది.

Question Number : 20 Question Id : 9032018630 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let P_1 be a partition of $[a, b]$ and P_2 is a refinement of P_1. If f is a bounded function on $[a, b]$, then
P_1 అనేది $[a, b]$ యొక్క విభజన మరియు P_2 అనేది P_1 యొక్క శుద్ధీకరణ విభజన. f అనేది $[a, b]$ పై పరిబద్ధ ప్రమేయము అయినప్పుడు.

Options :

1. ✔ $L(P_1, f) \leq L(P_2, f)$

2. ✖ $L(P_1, f) \geq L(P_2, f)$

3. ✖ $L(P_2, f) \geq U(P_2, f)$

4. ✖ $U(P_2, f) \geq U(P_1, f)$

Question Number : 21 Question Id : 9032018631 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The order of the differential equation whose solution is $y = Ae^{3x} + Be^{5x}$, where A,B are constants is

A, B లు స్థిర రాశులు, $y = Ae^{3x} + Be^{5x}$ సాధనగా గల అవకలన సమీకరణపు పరిమాణము.

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 3

4. ✖ 4

Question Number : 22 Question Id : 9032018632 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The general solution of $xdy - ydx = (x^2 + y^2)dx$ is

$xdy - ydx = (x^2 + y^2)dx$ యొక్క సాధారణ సాధన

Options :

1. ✔ $\tan^{-1}\left(\frac{y}{x}\right) = x + c$

2. ✖ $\tan^{-1}\left(\frac{x}{y}\right) = x + c$

3. ✖

$\tan^{-1}(y) = \frac{x}{y} + c$

4. ✖ $\tan^{-1}(x) = \frac{y}{x} + c$

Question Number : 23 Question Id : 9032018633 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The Integrating factor of $(1 + x^2)\frac{dy}{dx} + 2xy - 4x^2 = 0$ is
$(1 + x^2)\frac{dy}{dx} + 2xy - 4x^2 = 0$ యొక్క సమాకలన గుణకము

Options :

1. ✖ $\log(1 + x^2)$

2. ✖ e^{1+x^2}

3. ✔ $1 + x^2$

4. ✖ $\frac{2x}{1+x^2}$

Question Number : 24 Question Id : 9032018634 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The equation $(x^2 + y^2 + 2x)dx + 2ydy = 0$ is
$(x^2 + y^2 + 2x)dx + 2ydy = 0$ అను సమీకరణము

Options :

1. ✖ Homogenous
సమఘాతీయము

2. ✔ Non-Homogenous
సమ ఘాతీయము కాదు

3. ✖ Linear
ఏక ఘాతము

4. ✖ Exact
ఖచ్చితము

Question Number : 25 Question Id : 9032018635 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The general solution of $\frac{dy}{dx} + \frac{y}{x} = y^2$ is
$\frac{dy}{dx} + \frac{y}{x} = y^2$ యొక్క సాధారణ సాధన

Options :

1. ✖ $xy + \log x = c$

2. ✖ $xy - \log x = c$

3. ✔ $\frac{1}{xy} + \log x = c$

4. ✖ $\frac{1}{xy} - \log x = c$

Question Number : 26 Question Id : 9032018636 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The general solution of $(x^2 + y^2)dx - 2xydy = 0$ is
$(x^2 + y^2)dx - 2xydy = 0$ యొక్క సాధారణ సాధన

Options :

1. ✖ $x^2 + y^2 = cx$

2. ✔ $x^2 - y^2 = cx$

3. ✖ $x^2 + y^2 = cy$

4. ✖ $x^2 - y^2 = cy$

Question Number : 27 Question Id : 9032018637 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The general solution of $\sec^2 y\frac{dy}{dx} + 2x\tan y = x^3$
$\sec^2 y\frac{dy}{dx} + 2x\tan y = x^3$ యొక్క సాధారణ సాధన

Options :

1. ✖ $\tan y = ce^{x^2} + \frac{1}{2}(x^2 + 1)$

2. ✖ $\tan y = ce^{-x^2} + \frac{1}{2}(x^2 + 1)$

3. ✔ $\tan y = ce^{-x^2} + \frac{1}{2}(x^2 - 1)$

4. ✖ $\tan y = ce^{x^2} + \frac{1}{2}(x^2 - 1)$

Question Number : 28 Question Id : 9032018638 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The general solution of $\frac{dx}{z^2y} = \frac{dy}{z^2x} = \frac{dz}{y^2z}$ is

$\frac{dx}{z^2y} = \frac{dy}{z^2x} = \frac{dz}{y^2z}$ యొక్క సాధారణ సాధన

Options :

1. ✔ $x^2 - y^2 = C_1,\ y^3 - z^3 = C_2$

2. ✖ $x^2y^2 = C_1,\ y^3z^3 = C_2$

3. ✖ $x^2 - y^2 = C_1,\ y^3 + z^3 = C_2$

4. ✖ $x^2 + y^2 = C_1,\ y^3 - z^3 = C_2$

Question Number : 29 Question Id : 9032018639 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The general solution of $x^2p^2 + xyp - 6y^2 = 0$ where $p = \frac{dy}{dx}$ is

$p = \frac{dy}{dx}$ అయితే $x^2p^2 + xyp - 6y^2 = 0$ యొక్క సాధారణ సాధన

Options :

1. ✔ $(y - cx^2)\,(yx^3 - c) = 0$

2. ✖ $(yx - c)\,(yx^2 - c) = 0$

3. ✖ $(yx^2 - c)\,(yx^3 - cx) = 0$

4. ✖ $(yx^3 - c)\,(cy + x^2) = 0$

Question Number : 30 Question Id : 9032018640 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Orthogonal Trajectory of the curve $xy = k^2$ is

$xy = k^2$ అను వక్రము యొక్క లంబ సంఛేదనము

Options :

1. ✖ $x^2 - y^2 = c^2$

2. ✔ $x^2 + y^2 = c^2$

3. ✖ $x^2 - xy = c^2$

4. ✖ $x^2 + xy = c^2$

Question Number : 31 Question Id : 9032018641 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

$(3a^2x^2 + by\cos x)dx + (2\sin x - 4ay^3)dy = 0$ is exact for
$(3a^2x^2 + by\cos x)dx + (2\sin x - 4ay^3)dy = 0$ యధార్థము కావాలి అంటే

Options :

1. ✖ $a = 2, b = 3$

2. ✖ $a = 2, b = 5$

3. ✖ $a = 3, b = 4$

4. ✔ $a = 3, b = 2$

Question Number : 32 Question Id : 9032018642 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

General Solution of $p^2 - 7p + 12 = 0$ where $p = \frac{dy}{dx}$ is

$p = \frac{dy}{dx}$ అయితే $p^2 - 7p + 12 = 0$ యొక్క సాధారణ సాధన

Options :

1. ✖ $(y + 4x - c)(y + 3x - c) = 0$

2. ✔ $(y - 4x - c)(y - 3x - c) = 0$

3. ✖ $(y + 4x - c)(y - 3x - c) = 0$

4. ✖ $(y - 4x - c)(y + 3x - c) = 0$

Question Number : 33 Question Id : 9032018643 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The particular integral of $(D^3 - 2D^2 + D)y = e^{-x}$ is

$(D^3 - 2D^2 + D)y = e^{-x}$ యొక్క ప్రత్యేక సమాకలని

Options :

1. ✖ $\frac{1}{4}e^{-x}$

2. ✖ $\frac{1}{4}e^{x}$

3. ✔ $-\frac{1}{4}e^{-x}$

4. ✖ $-\frac{1}{4}e^{x}$

Question Number : 34 Question Id : 9032018644 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The particular integral of $(D^2 - 4D + 1)y = e^{2x}\sin x$ is

$(D^2 - 4D + 1)y = e^{2x}\sin x$ యొక్క ప్రత్యేక సమాకలని

Options :

1. ✖ $\frac{1}{4}e^{2x}\sin x$

2. ✔ $-\frac{1}{4}e^{2x}\sin x$

3. ✖ $\frac{1}{4}e^{-2x}\sin x$

4. ✖ $-\frac{1}{4}e^{-2x}\sin x$

Question Number : 35 Question Id : 9032018645 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The complete solution of $(D + 1)^3 y = x^2 e^{-x}$ is

$(D + 1)^3 y = x^2 e^{-x}$ యొక్క పూర్తి సాధన

Options :

1. ✖ $(C_1 + C_2x + C_3x^2)\, e^{-x} + \frac{x^5}{60} e^{x}$

2. ✖ $(C_1 + C_2x + C_3x^2)\, e^{x} + \frac{x^5}{60} e^{-x}$

3. ✔ $(C_1 + C_2x + C_3x^2)\, e^{-x} + \frac{x^5}{60} e^{-x}$

4. ✖ $(C_1 + C_2x + C_3x^2)\, e^{x} + \frac{x^5}{60} e^{x}$

Question Number : 36 Question Id : 9032018646 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The slope at any point of a curve is $2x + 3y$. If the curve passes through the origin, then equation of a curve is

ఒక వక్రము పై ఏదేని బిందువు వద్ద వాలు $2x + 3y$. మూల బిందువు ద్వారా వెళ్ళే వక్రము యొక్క సమీకరణము

Options :

1. ✖ $y = \frac{2}{9}e^{3x} - \frac{2x}{3} + \frac{2}{3}$

2. ✔ $y = \frac{2}{9}e^{3x} - \frac{2x}{3} - \frac{2}{9}$

3. ✖

$y = \frac{2}{9}e^{3x} + \frac{2x}{3} + \frac{2}{9}$

$y = \frac{2}{9}e^{3x} + \frac{2x}{3} - \frac{2}{9}$

4. ✖

Question Number : 37 Question Id : 9032018647 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The general solution of $x^2\frac{d^2y}{dx^2} - x\frac{dy}{dx} + 2y = 0$ is

$x^2\frac{d^2y}{dx^2} - x\frac{dy}{dx} + 2y = 0$ యొక్క సాధారణ సాధన

Options :

$y = x(C_1\cos(\log x) + C_2\sin(\log x))$

1. ✔

$y = x(C_1\cos(\log x) - C_2\sin(\log x))$

2. ✖

$y = x(C_1\cos(x) + C_2\sin(x))$

3. ✖

$y = x(C_1\cos(e^x) + C_2\sin(e^x))$

4. ✖

Question Number : 38 Question Id : 9032018648 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The complementary function of $(1+x)^2\frac{d^2y}{dx^2}+(1+x)\frac{dy}{dx}+y=2\sin[\log(1+x)]$ is

$(1+x)^2\frac{d^2y}{dx^2}+(1+x)\frac{dy}{dx}+y=2\sin[\log(1+x)]$ యొక్క పూరక ప్రమేయము

Options :

1. ✖ $C_1\cos(1+x)+C_2\sin(1+x)$

2. ✔ $C_1\cos\log(1+x)+C_2\sin\log(1+x)$

3. ✖ $C_1\cos e^{(1+x)}+C_2\sin e^{(1+x)}$

4. ✖ $C_1\cos\log(x)-C_2\sin\log(x)$

Question Number : 39 Question Id : 9032018649 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The partial differential equation obtained by eliminating the constants h,k from $(x-h)^2+(y-k)^2+z^2=c^2$ is

$(x-h)^2+(y-k)^2+z^2=c^2$ నుండి h,k లను తొలగించగా ఏర్పడే పాక్షిక అవకలన సమీకరణము

Options :

1. ✖ $p^2+q^2+1=c^2$

2. ✔ $z^2(p^2+q^2+1)=c^2$

3. ✖ $z^2(p^2+q^2)=c^2$

4. ✖ $p^2 + q^2 + 1 = z^2c^2$

Question Number : 40 Question Id : 9032018650 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The solution of $(y+z)p + (x+z)q = x+y$ is
$(y+z)p + (x+z)q = x+y$ యొక్క సాధన

Options :

1. ✖ $\phi\left[(x+y+z)(x-y), \frac{x-y}{x-z}\right] = 0$

2. ✖ $\phi\left[(x+y+z)(x-y)^2, \frac{x+y}{x+z}\right] = 0$

3. ✔ $\phi\left[(x+y+z)(x-y)^2, \frac{x-y}{x-z}\right] = 0$

4. ✖ $\phi\left[\frac{x+y+z}{(x-y)^2}, \frac{x-y}{x-z}\right] = 0$

Question Number : 41 Question Id : 9032018651 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $u = \log_e\left(x^3 + y^3 + z^3 - 3xyz\right)$, then $\frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z} =$

$u = \log_e\left(x^3 + y^3 + z^3 - 3xyz\right)$ అయితే, $\frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z} =$

Options :

1. ✖ $\frac{1}{x+y+z}$

2. ✖ 0

3. ✔ $\frac{3}{x+y+z}$

4. ✖ 1

Question Number : 42 Question Id : 9032018652 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $\tan\ u = \frac{\cos x}{\sinh\ y}$ and $\tanh v = \frac{\sin x}{\cosh\ y}$ then

$\tan\ u = \frac{\cos x}{\sinh\ y}$ మరియు $\tanh v = \frac{\sin x}{\cosh\ y}$ అయితే

Options :

1. ✖ $\frac{\partial u}{\partial x} = \frac{\partial v}{\partial y}$ and $\frac{\partial u}{\partial y} = \frac{\partial v}{\partial x}$

2. ✔ $\frac{\partial u}{\partial x} = \frac{\partial v}{\partial y}$ and $\frac{\partial u}{\partial y} = -\frac{\partial v}{\partial x}$

3. ✖ $\frac{\partial u}{\partial x} = -\frac{\partial v}{\partial y}$ and $\frac{\partial u}{\partial y} = -\frac{\partial v}{\partial x}$

4. ✖ $\frac{\partial u}{\partial x} = -\frac{\partial v}{\partial y}$ and $\frac{\partial u}{\partial y} = \frac{\partial v}{\partial x}$

Question Number : 43 Question Id : 9032018653 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $e^x + e^y = 2xy$, then $\frac{dy}{dx} =$

$e^x + e^y = 2xy$ అయితే $\frac{dy}{dx} =$

Options :

1. ✖ $\frac{2y-e^x}{2x-e^y}$

2. ✖ $\frac{e^x+2y}{2x-e^y}$

3. ✔ $\frac{e^x-2y}{2x-e^y}$

4. ✖ $\frac{e^x-2y}{2x+e^y}$

Question Number : 44 Question Id : 9032018654 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $f(x,y,z) = 3x^2yz + 5xy^2z + 4z^2$, then $x\frac{\partial f}{\partial x} + y\frac{\partial f}{\partial y} + z\frac{\partial f}{\partial z} =$

$f(x,y,z) = 3x^2yz + 5xy^2z + 4z^2$ అయితే $x\frac{\partial f}{\partial x} + y\frac{\partial f}{\partial y} + z\frac{\partial f}{\partial z} =$

Options :

1. ✖ 0

2. ✖ $f(x,y,z)$

3. ✖ $2f(x,y,z)$

4. ✔ $4f(x,y,z)$

Question Number : 45 Question Id : 9032018655 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The envelope of the family $x\cos\alpha + y\sin\alpha = a$, where a is the parameter is

'a' పారామితి అయినప్పుడు $x\cos\alpha + y\sin\alpha = a$ అను కుటుంబం యొక్క అవరణిక

Options :

1. ✖ $x^2 - y^2 = a^2$

2. ✔ $x^2 + y^2 = a^2$

3. ✖ $x^3 - y^3 = a^3$

4. ✖ $x^3 + y^3 = a^3$

Question Number : 46 Question Id : 9032018656 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The envelope of the family of straight lines $\frac{x}{a}+\frac{y}{b}=1$, where the parameters a and b are connected by the relation $ab = c^2$, c being a constant, is

a మరియు b పరామితులను కలిపే సంబంధము $ab = c^2$ (c అనేది స్థిరరాశి) అయ్యే విధంగా $\frac{x}{a}+\frac{y}{b}=1$ అను సరళరేఖల కుటుంబం యొక్క అవరణిక

Options :

1. ✖ $2xy = c^2$

2. ✖ $3xy = c^2$

3. ✔ $4xy = c^2$

4. ✖ $xy = c^2$

Question Number : 47 Question Id : 9032018657 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The evolute of the parabola $y^2 = 4ax$ is

$y^2 = 4ax$ అను పరావలయము యొక్క కేంద్రజము

Options :

1. ✖ $27ay^2 = 4(x + 2a)^2$

2. ✖ $27ay^2 = 4(x - 2a)^2$

3. ✔ $27ay^2 = 4(x - 2a)^3$

4. ✖ $27ay^2 = 4(x + 2a)^3$

Question Number : 48 Question Id : 9032018658 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The maximum value of $u = xy + \frac{a^3}{x} + \frac{a^3}{y}$ is

$u = xy + \frac{a^3}{x} + \frac{a^3}{y}$ యొక్క గరిష్ఠ విలువ

Options :

1. ✖ a^2

2. ✖ $2a^2$

3. ✔ $3a^2$

4. ✖ $4a^2$

Question Number : 49 Question Id : 9032018659 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The minimum value of $u = x^3 + y^3 - 3axy\ (a > 0)$ occurs when

$u = x^3 + y^3 - 3axy\ (a > 0)$ యొక్క కనిష్ఠ విలువ ఎప్పుడు వ్యవస్థితము అవుతుంది

Options :

1. ✖ $x = a, y = -a$

2. ✔ $x = y = a$

3. ✖ $x = -a, y = a$

4. ✖ $x = y = -a$

Question Number : 50 Question Id : 9032018660 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The radius of curvature at the point (x, y) on the curve $xy = a^2$ is

$xy = a^2$ అను వక్రముపై (x, y) బిందువు వద్ద వక్రతా వ్యాసార్ధము

Options :

1. ✖ $\frac{(x^2+y^2)^{3/2}}{4a^2}$

2. ✖ $\frac{(x^2+y^2)^{2/3}}{8\,a^2}$

3. ✖ $\frac{(x^2+y^2)^{2/3}}{2a^2}$

4. ✔ $\frac{(x^2+y^2)^{3/2}}{2a^2}$

Question Number : 51 Question Id : 9032018661 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $u = (x^2 + y^2 + z^2)^{-1/2}$ then, u is a homogenous function of degree

$u = (x^2 + y^2 + z^2)^{-1/2}$ అయితే, సమఘాతీయ ప్రమేయము u యొక్క ఘాతము

Options :

1. ✔ -1

2. ✖ 1

3. ✖ $-\frac{1}{2}$

4. ✖ 2

Question Number : 52 Question Id : 9032018662 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The locus of center of curvature is
వక్రతా కేంద్రము యొక్క బిందుపథము

Options :

1. ✔ Evolute
కేంద్రజము

2. ✖ Envelope
అవరణిక

3. ✖ Cardioid
హృదయాభము

4. ✖ Projectile
ప్రొజక్టైల్

Question Number : 53 Question Id : 9032018663 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The radius of curvature at any point of the cycloid $x = a(t + \sin t), y = a(1 - \cos t)$ is

సైక్లాయిడ్ $x = a(t + \sin t), y = a(1 - \cos t)$ పై ఏదేని బిందువు వద్ద వక్రతావ్యాసార్ధము

Options :

1. ✖ $4\cos\frac{t}{2}$

2. ✖ $4a\cos^2\frac{t}{2}$

3. ✔ $4a\cos\frac{t}{2}$

4. ✖ $4\cos^2\frac{t}{2}$

Question Number : 54 Question Id : 9032018664 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The coordinates of center of curvature are given by
వక్రతా కేంద్రము యొక్క నిరూపకాలు

Options :

1. ✖ $\bar{x} = x - \frac{y_1(1+y_1)^2}{y_2},\ \bar{y} = y - \frac{1+{y_1}^2}{y_2}$

2. ✖ $\bar{x} = x + \frac{y_1(1+y_1)^2}{y_2},\ \bar{y} = y + \frac{1+{y_1}^2}{y_2}$

3. ✔ $\bar{x} = x - \frac{y_1(1+y_1)^2}{y_2},\ \bar{y} = y + \frac{1+{y_1}^2}{y_2}$

4. ✖ $\bar{x} = x + \frac{y_1(1+y_1)^2}{y_2},\ \bar{y} = y - \frac{1+{y_1}^2}{y_2}$

Question Number : 55 Question Id : 9032018665 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If z is a homogenous function of x, y of degree 5, then $x^2\frac{\partial^2 z}{\partial x^2} + 2xy\frac{\partial^2 z}{\partial x \partial y} + y^2\frac{\partial^2 z}{\partial y^2} =$

z అనేది x, y లలో ఘాతము 5 గాగల సమఘాతీయ ప్రమేయము, అయితే $x^2\frac{\partial^2 z}{\partial x^2} + 2xy\frac{\partial^2 z}{\partial x \partial y} + y^2\frac{\partial^2 z}{\partial y^2} =$

Options :

1. ✖ $5z$

2. ✔ $20z$

3. ✖ $30z$

4. ✖ $2z$

Question Number : 56 Question Id : 9032018666 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $u = x^2\, tan^{-1}\frac{y}{x} - y^2\, tan^{-1}\frac{x}{y}$, then $\frac{\partial^2 u}{\partial x \partial y} =$

$u = x^2\, tan^{-1}\frac{y}{x} - y^2\, tan^{-1}\frac{x}{y}$, అయితే $\frac{\partial^2 u}{\partial x \partial y} =$

Options :

1. ✔ $\frac{x^2-y^2}{x^2+y^2}$

2. ✖ $\frac{x^2+y^2}{x^2-y^2}$

3. ✖ 0

4. ✖ u

Question Number : 57 Question Id : 9032018667 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The percentage error in calculating the area of a rectangle when an error of 2 percent is made in measuring its sides
దీర్ఘచతురస్రము యొక్క భుజాలు కొలిచేటప్పుడు 2% దోషము ఉంటే దీర్ఘచతురస్ర వైశాల్యము కొలతలో దోషశాతము

Options :

1. ✖ 1%

2. ✖ 2%

3. ✖ 3%

4. ✔ 4%

Question Number : 58 Question Id : 9032018668 Question Type : MCQ Option Shuffling : Yes Is

Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $H = f(y-z, z-x, x-y)$, then
$H = f(y-z, z-x, x-y)$, అయితే

Options :

1. ✖ $\frac{\partial H}{\partial z} + \frac{\partial H}{\partial x} + \frac{\partial H}{\partial y} = 0$

2. ✔ $\frac{\partial H}{\partial z} - \frac{\partial H}{\partial x} - \frac{\partial H}{\partial y} = 0$

3. ✖ $\frac{\partial H}{\partial z} = \frac{\partial H}{\partial x} - \frac{\partial H}{\partial y}$

4. ✖ $\frac{\partial H}{\partial z} = \frac{\partial H}{\partial y} - \frac{\partial H}{\partial x}$

Question Number : 59 Question Id : 9032018669 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $f(x,y) = \begin{cases} \frac{xy(x^2-y^2)}{x^2+y^2} & (x,y) \neq (0,0) \\ 0 & (x,y) = (0,0) \end{cases}$, then the values of $f_{xy}(0,0)$ & $f_{yx}(0,0)$ are respectively is

$f(x,y) = \begin{cases} \frac{xy(x^2-y^2)}{x^2+y^2} & (x,y) \neq (0,0) \\ 0 & (x,y) = (0,0) \end{cases}$ అయితే వరుసగా $f_{xy}(0,0)$ & $f_{yx}(0,0)$ విలువలు

Options :

1. ✔ 1, -1

2. ✖ -1, 1

3. ✖ 1, 1

4. ✖ -1, -1

Question Number : 60 Question Id : 9032018670 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The radius of curvature at the origin for
$x^3 - 2x^2y + 3xy^2 - 4y^3 + 5x^2 - 6xy + 7y^2 - 8y = 0$ is

$x^3 - 2x^2y + 3xy^2 - 4y^3 + 5x^2 - 6xy + 7y^2 - 8y = 0$ కు వక్రతా వ్యాసార్ధము

Options :

1. ✖ $-\frac{4}{5}$

2. ✖ $\frac{5}{4}$

3. ✔ $\frac{4}{5}$

4. ✖ $-\frac{5}{4}$

Question Number : 61 Question Id : 9032018671 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Suppose $P(S)$ is the set of all subsets of a non-empty set S. Then $(P(S), \Delta)$ is a group where $A \Delta B = (A - B) \cup (B - A)$ for any $A, B \in P(S)$. The inverse of $A \in P(S)$ is

ఒక శూన్యేతర సమితి S యొక్క ఉపసమితుల కుటుంబము $P(S)$. ప్రతి $A, B \in P(S)$ కి $A \Delta B = (A - B) \cup (B - A)$ అయ్యేటట్లు $(P(S), \Delta)$ ఒక సమూహము అయితే, $A \in P(S)$ యొక్క విలోమము.

Options :

1. ✖ S

2. ✖ ϕ

3. ✔ A

4. ✖ $S - A$

Question Number : 62 Question Id : 9032018672 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let $G = (\mathbb{R}, +)$ and $\bar{G} = (C_o, .)$ be two groups and $\phi: G \to \bar{G}$ defined by $\phi(x) = \cos x + i \sin x$, then the kernel of ϕ is

$G = (\mathbb{R}, +)$ మరియు $\bar{G} = (C_o, .)$ లు రెండు సమూహములు మరియు $\phi: G \to \bar{G}$, $\phi(x) = \cos x + i \sin x$, గా నిర్వచించినప్పుడు ϕ యొక్క కెర్నల్

Options :

1. ✖ $\{0\}$

2. ✖ $\{2\pi\}$

3. ✖ $\{n\pi/n \in z\}$

4. ✔ $\{2n\pi/n \in z\}$

Question Number : 63 Question Id : 9032018673 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The order of the smallest non-abelian group of odd order is
బేసి తరగతి కలిగి, వినిమయం కాని సమూహం యొక్క కనిష్ఠ తరగతి

Options :

1. ✖ 15

2. ✖ 17

3. ✖ 9

4. ✔ 21

Question Number : 64 Question Id : 9032018674 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The number of generators of an infinite cyclic group G is
అనంత చక్రీయ సమూహము G యొక్క జనక మూలకాల సంఖ్య

Options :

1. ✖ 0

2. ✖ 1

3. ✔ 2

4. ✖ ∞

Question Number : 65 Question Id : 9032018675 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The set E of all even integers is a subgroup of the group Z of integers under addition, then the intersection of the cosets $E + 2$ and $E + 4$ is
సంకలనము దృష్ట్యా పూర్ణ సంఖ్యల సమూహం Z లో, సరి పూర్ణ సంఖ్యల సమితి E ఉపసమూహం అయితే, $E + 2$ మరియు $E + 4$ ల ఛేధనము

Options :

1. ✖ ϕ

2. ✖ Z

3. ✖ $\{0\}$

4. ✔ E

Question Number : 66 Question Id : 9032018676 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If G is a cyclic group of order 36 then the number of subgroups of order 6 is
36 తరగతి గల చక్రీయ సమూహం G కి 6 తరగతి గల ఉపసమూహాల సంఖ్య

Options :

1. ✔ 1

2. ✖ 2

3. ✖ 6

4. ✖ 4

Question Number : 67 Question Id : 9032018677 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In the symmetric group S_3 the number of elements x such that $x^2 = e$ is
సౌష్ఠవ సమూహము S_3 లో $x^2 = e$ అయ్యేటట్లు x అనే మూలకాల సంఖ్య

Options :

1. ✖ 2

2. ✖ 3

3. ✔ 4

4. ✖ 6

Question Number : 68 Question Id : 9032018678 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If a and b are any two elements in an abelian group G such that $O(a) = 7, O(b) = 8$ then $O(ab) =$

వినిమయ సమూహము G లో a మరియు b లు రెండు మూలకాలు అయ్యేటట్లు $O(a) = 7, O(b) = 8$ అయితే $O(ab) =$

Options :

1. ✖ 1

2. ✖ 7

3. ✔ 56

4. ✖ 15

Question Number : 69 Question Id : 9032018679 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The number of group homomorphous from $(Z,+)$ onto $(Z,+)$ are

$(Z,+)$ నుండి $(Z,+)$ కు ఉండే సమూహాల సంగ్రస్త సమరూపతల సంఖ్య

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 3

4. ✖ 4

Question Number : 70 Question Id : 9032018680 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If G is an abelian group then $O\big(In(G)\big) =$
(Where $In(G)$ is the group of inner automorphims of G)
G ఒక వినిమయ సమూహము అయితే $O\big(In(G)\big) =$
(ఇక్కడ $In(G)$ అనేది G యొక్క అంతర తుల్యరూపతల సమూహాన్ని సూచిస్తుంది)

Options :

1. ✔ 1

2. ✖ 2

3. ✖ 3

4. ✖ ∞

Question Number : 71 Question Id : 9032018681 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The number of zero divisors in the ring $(Z_{30}, +_{30}, X_{30})$ is

వలయము $(Z_{30}, +_{30}, X_{30})$ లోని శూన్య భాజకాల సంఖ్య

Options :

1. ✖ 0

2. ✖ 8

3. ✖ 20

4. ✔ 21

Question Number : 72 Question Id : 9032018682 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The number of units in the ring $\frac{Z}{<45>}$ is

$\frac{Z}{<45>}$ వలయంలోని యూనిట్ మూలకాలు సంఖ్య

Options :

1. ✖ 8

2. ✖ 12

3. ✔ 24

4. ✖ 36

Question Number : 73 Question Id : 9032018683 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a cyclic group
ఈ క్రింది వానిలో చక్రీయ సమూహము కానిది

Options :

1. ✖ $Z_2 \times Z_5$

2. ✖ $Z_3 \times Z_5$

3. ✖ $Z_2 \times Z_3$

4. ✔ $Z_2 \times Z_{10}$

Question Number : 74 Question Id : 9032018684 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The characteristic of the ring of Gaussian integers is
గాషియన్ పూర్ణాంకాల వలయము యొక్క లాక్షణీకత

Options :

1. ✔ 0

2. ✖ 1

3. ✖ 2

4. ✖ 3

Question Number : 75 Question Id : 9032018685 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The number of maximal ideals of a field
క్షేత్రానికి గల గరిష్ఠ అదర్శాల సంఖ్య

Options :

1. ✔ 1

2. ✖ 2

3. ✖ 0

4. ✖ ∞

Question Number : 76 Question Id : 9032018686 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is correct
ఈ క్రింది వాటిలో సరిఅయిన ప్రవచనము

Options :

1. ✔ Every field is an integral domain
ప్రతి క్షేత్రము ఒక పూర్ణాంక ప్రదేశము

2. ✖ Every integral domain is a field
ప్రతి పూర్ణాంక ప్రదేశము ఒక క్షేత్రము

3. ✖ Every ring has a multiplicative identity
ప్రతి వలయము ఒక గుణకార తత్సమమును కల్గి ఉంటుంది

4. ✖ Every ring has at most two units
ప్రతి వలయంలో రెండుకు మించి యూనిట్లు ఉండవు

Question Number : 77 Question Id : 9032018687 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let R be a commutative ring with unity, then M is maximal ideal of R if and only if $\frac{R}{M}$ is
R ఒక తత్సమ సహిత వినిమయ వలయం అయినప్పుడు, M ఒక గరిష్ఠ అదర్శము కావటానికి అవశ్యక పర్యాప్త నియమము $\frac{R}{M}$ ఒక

Options :

1. ✖

Ring
వలయం

2. ✖ Integral domain
పూర్ణాంక ప్రదేశము

3. ✔ Field
క్షేత్రము

4. ✖ Division ring but not field
విభాగ వలయము అవుతంది కాని క్షేత్రము కాదు

Question Number : 78 Question Id : 9032018688 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $\frac{Z_3[x]}{(x^3+cx^2+1)}$ is a field, then the value of $c \in Z_3$ is

$\frac{Z_3[x]}{(x^3+cx^2+1)}$ ఒక క్షేత్రము మరియు $c \in Z_3$ అయితే $c =$

Options :

1. ✔ 0

2. ✖ 1

3. ✖ 2

4. ✖ 3

Question Number : 79 Question Id : 9032018689 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The number of idempotent elements in the ring $(Z_{10}, +_{10}, X_{10})$ is
$(Z_{10}, +_{10}, X_{10})$ అనే వలయంలో అపవర్తిత మూలకాల సంఖ్య

Options :

1. ✖ 3

2. ✔ 4

3. ✖ 5

4. ✖ 6

Question Number : 80 Question Id : 9032018690 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If f is a one-one homomorphism of a ring R into a ring R', then the kernel of f =
వలయము R నుండి వలయము R' కి ఒక అన్వేక సమరూపత అయితే f యొక్క అంతస్తము(కెర్నల్)

Options :

1. ✖ ϕ

2. ✔ $\{0\}$

3. ✖ R

4. ✖ $\{1\}$

Question Number : 81 Question Id : 9032018691 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If R is a field of real numbers and $W = \{(x, y, z)/x, y, z \text{ are irrational numbers}\}$, then
R అనేది వాస్తవ సంఖ్యల క్షేత్రము మరియు $W = \{(x, y, z)/x, y, z$ లు కరణీయ సంఖ్యలు$\}$, అయితే

Options :

1. ✖ W is a subspace of $V_3(R)$
W అనేది $V_3(R)$ కు ఉపఅంతరాళం

2. ✔ W is not a subspace of $V_3(R)$
W అనేది $V_3(R)$ కు ఉపఅంతరాళము కాదు

3. ✖ W is linearly dependent
W అనేది ఋజు పరాధీనము

4. ✖ W contains zero vector.
W అనేది శూన్య సదిశను కల్గి ఉంటుంది

Question Number : 82 Question Id : 9032018692 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is correct
ఈ క్రింది వాటిలో ఏది సరియైనది

Options :

1. ✖ The intersection of any two subsets of V is a subspace of vector space V
సదిశాంతరాళము V కి రెండు ఉపసమితుల ఛేధనము ఉప అంతరాళము అవుతుంది

2. ✖ The empty set is a subspace of every vector space
శూన్య సమితి ప్రతి సదిశాంతరాళానికి ఉప అంతరాళము అవుతుంది

3. ✔ The union of two subspaces of a vector space V is a subspace of V
సదిశాంతరాళము యొక్క రెండు ఉప అంతరాళాల సమ్మేళనము ఒక ఉప అంతరాళము అవుతుంది

4. ✖ Intersection of two subspaces of a vector space is again a subspace of vector space V
సదిశాంతరాళము V యొక్క రెండు ఉప అంతరాళాల ఛేధానము ఒక ఉప అంతరాళము అవుతుంది

Question Number : 83 Question Id : 9032018693 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following transformations $T: R^2 \to R^2$ is linear
ఈ క్రింది వాటిలో $T: R^2 \to R^2$ అను పరివర్తనలు ఏకఘాతము అవుతుంది

Options :

1. ✖ $T(x, y) = (x + 1, y)$

2. ✖ $T(x,y) = (0, \sin x)$

3. ✔ $T(x,y) = (x+y, x-y)$

4. ✖ $T(x,y) = (|x|, y)$

Question Number : 84 Question Id : 9032018694 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $T: R^2 \to R^3$ is a linear transformation such that $T(1,1) = (1,0,2)$ and $T(2,3) = (1,-1,4)$, then $T(8,11) =$

$T(1,1) = (1,0,2)$ మరియు $T(2,3) = (1,-1,4)$ అయ్యేటట్లు $T: R^2 \to R^3$ అనేది ఏకఘాత అను పరివర్తనము అయితే $T(8,11) =$

Options :

1. ✔ $(5,-3,16)$

2. ✖ $(-5,\ 3,16)$

3. ✖ $(-5,-3,\ 16)$

4. ✖ $(5,-3,-16)$

Question Number : 85 Question Id : 9032018695 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let V be the vector space of all solutions of the differential equation $y'' - 3y' + 2y = 0$, then the basis of V is

V అనేది $y'' - 3y' + 2y = 0$ అను అవకలన సమీకరణము యొక్క సాధనల సదిశాంతరాళము

అయితే V యొక్క అధారము

Options :

1. $\{e^x, e^{2x}\}$ ✔

2. $\{e^{-x}, e^{2x}\}$ ✖

3. $\{e^{-x}, e^{-2x}\}$ ✖

4. $\{e^x, e^{-2y}\}$ ✖

Question Number : 86 Question Id : 9032018696 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let $T: R^3 \to R^2$ be a linear transformation defined by $T(x, y, z) = (x - y, 2y + z)$, then the basis of $N(T)$ is

$T: R^3 \to R^2$ అనేది ఏకఘాత పరివర్తనము $T(x, y, z) = (x - y, 2y + z)$ గా నిర్వచించబడినట్లైతే $N(T)$ యొక్క అధారము

Options :

1. $\{(-1,\ 1,\ -\frac{1}{2})\}$ ✖

2. ✔ $\{(1, 1, -\frac{1}{2})\}$

3. ✖ $\{(1, -1, \frac{1}{2})\}$

4. ✖ $\{(1, -1, -\frac{1}{2})\}$

Question Number : 87 Question Id : 9032018697 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let V and W be vector spaces and $L(U, W)$ be the vector space of all linear maps from V to W. Let $\dim V = 2$ and $\dim W = 11$, then $\dim L(V, W) =$

V మరియు W లు సదిశాంతరాళములు, $L(U, W)$ అనెడి ఏకఘాత పరివర్తనముల సదిశాంతరాళము. $\dim V = 2, \dim W = 11$ అయితే $\dim L(V, W) =$

Options :

1. ✖ 13

2. ✔ 22

3. ✖ 9

4. ✖ 2

Question Number : 88 Question Id : 9032018698 Question Type : MCQ Option Shuffling : Yes Is

Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following sets is a basis of the vector space $R^3(R)$
ఈ క్రింది వాటిలో $R^3(R)$ సదిశాంతరాళముకు ఏ సమితి అధారము అవుతుంది

Options :

1. ✖ $B_1 = \{(1,0,1),(1,1,0),(0,1,1),(1,1,1)\}$

2. ✖ $B_2 = \{(1,3,-2),(3,4,-5),(2,1,-3)\}$

3. ✖ $B_3 = \{(1,-1,2),(2,1,-2),(-2,2,-4)\}$

4. ✔ $B_4 = \{(1,3,-2),(2,1,-3),(-3,1,3)\}$

Question Number : 89 Question Id : 9032018699 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Rank of the linear transformation $T: R^3(R) \to R^4(R)$ derived by
$T(x,y,z) = (x+y+z, y+z, x+z, x-y+z)$ is
$T: R^3(R) \to R^4(R)$, $T(x,y,z) = (x+y+z, y+z, x+z, x-y+z)$ గా నిర్వచింపబడ్డ ఏకఘాత పరివర్తనము యొక్క కోటి

Options :

1. ✖ 0

2. ✖ 1

3. ✖ 2

4. ✔ 3

Question Number : 90 Question Id : 9032018700 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following matrix is not diagonalizable
ఈ క్రింది మాత్రికలలో వికర్ణీకరణం కానిది ఏది?

Options :

1. ✖ $\begin{bmatrix} 1 & 2 & 3 \\ 0 & 4 & 5 \\ 0 & 0 & 6 \end{bmatrix}$

2. ✔ $\begin{bmatrix} 1 & 2 & 3 \\ 0 & 1 & 2 \\ 0 & 0 & 4 \end{bmatrix}$

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

4. ✖ $\begin{bmatrix} 1 & 2 & 3 \\ 0 & 3 & 4 \\ 0 & 0 & 5 \end{bmatrix}$

Question Number : 91 Question Id : 9032018701 Question Type : MCQ Option Shuffling : Yes Is

Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If A is a square matrix of order 3 whose one of the eigen value is 3 and its trace and determinant are respectively 12 and 60. Then sum of the square of eigen values of A is equal to
పరిమాణము 3, ఒక లాక్షణిక విలువ 3 గాగల చతురస్ర మాత్రిక A, వరుసగా జాడ (ట్రేస్) మరియు డిటర్మినెంట్ 12 మరియు 60 అయితే లాక్షణిక విలువల వర్గాల మొత్తము ఎంత?

Options :

1. ✖ 75

2. ✖ 48

3. ✖ 36

4. ✔ 50

Question Number : 92 Question Id : 9032018702 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Let $T: R^2 \to R^2$ be the linear transformation defined by $T(x, y) = (x + 2y, 2x - 3y)$. Then the matrix of T with respect to the basis $B = \{(1,0), (0,1)\}$ is
$T: R^2 \to R^2$ అనే ఏకఘాత పరివర్తనము $T(x, y) = (x + 2y, 2x - 3y)$ గా నిర్వచించినప్పుడు $B = \{(1,0), (0,1)\}$ అధారము దృష్ట్యా T యొక్క మాత్రిక

Options :

1. ✖ $\begin{bmatrix} 1 & 2 \\ -3 & 4 \end{bmatrix}$

2. ✖ $\begin{bmatrix}1 & 2\\3 & 4\end{bmatrix}$

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

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

Question Number : 93 Question Id : 9032018703 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If A is any orthogonal matrix and $P = \begin{bmatrix}1 & 0\\0 & 1\end{bmatrix}$ and $B = APA^T$, then $A^T B^{22} A$ is

A అనేది ఏదేని లంబమాత్రిక, $P = \begin{bmatrix}1 & 0\\0 & 1\end{bmatrix}$ మరియు $B = APA^T$, అయితే $A^T B^{22} A$ =

Options :

1. ✖ $\begin{bmatrix}22 & 0\\0 & 22\end{bmatrix}$

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

3. ✖ $\begin{bmatrix}22 & 1\\0 & 1\end{bmatrix}$

4. ✖ $\begin{bmatrix}22 & 0\\1 & 1\end{bmatrix}$

Question Number : 94 Question Id : 9032018704 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $x = (3,4), y = (1,2)$ are two vectors in the vector space R^2 with standard inner product. If z is a vector such that $\langle x,z\rangle = 32$, $\langle y,z\rangle = 14$, then $z =$
ప్రామాణిక అంతర్లబ్ధముతో R^2 అను సదిశాంతరాళములో $x = (3,4), y = (1,2)$ రెండు సదిశలు. z అనే సదిశ $\langle x,z\rangle = 32$, $\langle y,z\rangle = 14$ అయ్యేవిధంగా ఉంటే $z =$

Options :

1. ✖ $(2,3)$

2. ✖ $(3,4)$

3. ✔ $(4,5)$

4. ✖ $(5,6)$

Question Number : 95 Question Id : 9032018705 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In $R^3(R)$ with $e_1 = (0,1,0), e_2 = (1,0,1), e_3 = (0,1,1)$ as a basis, the element $(2,3,4) =$
$e_1 = (0,1,0), e_2 = (1,0,1), e_3 = (0,1,1)$ అధారంతో $R^3(R)$ లో మూలకము $(2,3,4) =$

Options :

1. ✖ $e_1 + 2e_2 + 3e_3$

2. ✖ $3e_3 + 2e_1 + e_2$

3. ✔ $e_1 + 2e_1 + 2e_2$

4. ✖ $2e_1 + 3e_2 + 4e_3$

Question Number : 96 Question Id : 9032018706 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a vector space of complex numbers C over the real number field R,
వాస్తవ సంఖ్యా క్షేత్రము R మీద, సంకీర్ణ సంఖ్యలు C యొక్క సదిశా అంతరాశముకు

Options :

1. ✖ $\{i\}$ is a basis
$\{i\}$ ఒక అధారము

2. ✖ $\{1, -1\}$ is a basis
$\{1, -1\}$ ఒక అధారము

3. ✖ $\{i, -i\}$ is a basis
$\{i, -i\}$ ఒక అధారము

4. ✔ $\{1, i\}$ is a basis
$\{1, i\}$ ఒక అధారము

Question Number : 97 Question Id : 9032018707 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If W is a subspace of R^4 given by $W = \{(a,b,c,d)/a = c, b = 2d\}$, then the dimension of W is

$W = \{(a,b,c,d)/a = c, b = 2d\}$, R^4 యొక్క ఉపఅంతరాళం అయితే W యొక్క పరిమాణం

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 3

4. ✖ 4

Question Number : 98 Question Id : 9032018708 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If $S = \{(i,0,1),(1,-2,0)\}$ is in the inner product space C(C) with standard inner product, then an element of $S^{\perp}$ is

ప్రామాణిక అంతరలబ్ధముతో C(C) అను అంతర లబ్ధ అంతరాళములో $S = \{(i,0,1),(1,-2,0)\}$ ఉంటే $S^{\perp}$ లోని ఒక మూలకము

Options :

1. ✔ $(2,1,-2i)$

2. ✖ $(2, -1, -2i)$

3. ✖ $(-2, 1, 2i)$

4. ✖ $(2, -1, 2i)$

Question Number : 99 Question Id : 9032018709 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Eigen values of the matrix $A = \begin{bmatrix} 6 & -2 & 2 \\ -2 & 3 & -1 \\ 2 & -1 & 3 \end{bmatrix}$ are

$A = \begin{bmatrix} 6 & -2 & 2 \\ -2 & 3 & -1 \\ 2 & -1 & 3 \end{bmatrix}$ అను మాత్రిక యొక్క లాక్షణిక విలువలు

Options :

1. ✖ 16, 18, 20

2. ✖ -2, -2, 8

3. ✔ 2, 2, 8

4. ✖ 2, -2, 8

Question Number : 100 Question Id : 9032018710 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A square matrix A of order 3 has eigen values 0,-1,1. Then A^{22} is

A అనే చతరస్ర మాత్రిక యొక్క పరిమాణము 3 మరియు లాక్షణిక విలువలు 0,-1,1 గా ఉంటే A^{22} =

Options :

1. ✖ A

2. ✔ A^2

3. ✖ A^3

4. ✖ A^4