

गद्यांश को ध्यान से पढ़ें और इस पर आधारित प्रश्न का उत्तर दें :

आकाशवाणी (AIR) में पिछले कुछ वर्षों में राष्ट्रीय, क्षेत्रीय और स्थानीय प्रसारण की एक त्रिस्तरीय प्रणाली विकसित हुई है। यह भिन्न-भिन्न समाजों वाले महाद्वीपीय आयाम वाले इस देश में अपने दर्शकों की सूचना, शिक्षा और मनोरंजन की जरूरतों की पूर्ति करता है। यह समाचार, संगीत, अंताक्षरी और अन्य कार्यक्रम 23 भाषाओं और 176 बोलियों में प्रदान करता है, देश की लगभग पूरी जनता के लिये जो हाल ही में 1 बिलियन को पार कर गई है।

AIR का मनोरंजन चैनल 'विविध भारती' के नाम से 3 अक्टूबर, 1957 को शुरू हुआ और 1 नवम्बर, 1967 से इस पर विज्ञापन प्रसारित किये जा रहे हैं। प्रथम रेडियो संगीत सम्मेलन 1954 में आयोजित हुआ उसके बाद यह एक वार्षिक कार्यक्रम बन गया। आकाशवाणी वार्षिक सम्मान/पुरस्कार 1974 में स्थापित हुए। ये पुरस्कार प्रोग्रामिंग, इंजिनियरिंग, समाचार और श्रोता शोध के लिये दिये जाते हैं। दूरदर्शन AIR से 1 अप्रैल, 1976 को अलग हुआ। राजनीतिक दलों का चुनाव पूर्व प्रसारण पहली बार 1977 में AIR के विभिन्न स्टेशनों से हुआ। नॉर्थ ईस्ट सेवा को 3 जनवरी, 1990 को AIR के शिलॉंग कैम्पस से प्रारंभ किया गया। सार्वजनिक सेवा प्रसारण शुरू में शाम को साढ़े पांच घंटे तक प्रसारित होता था। तब से अब तक इसे तीन प्रसारण तक बढ़ा दिया है। कार्यक्रम को हिन्दी और अंग्रेजी में 50 kw SW ट्रांसमीटर के माध्यम से प्रसारित किया जाता है, उत्तर पूर्वी भारत के सभी राज्यों की विभिन्न भाषाओं में संगीत कार्यक्रम के अलावा फोन-इन कार्यक्रम (Phone-in-Programmes) शुरू किये गये।

दूरदर्शन AIR से किस वर्ष अलग हुआ ?

- (1) 1 अप्रैल 1977
- (2) 2 अप्रैल 1976
- (3) 1 अप्रैल 1976
- (4) 2 अप्रैल 1977

Options :

212807129457. 1
212807129458. 2
212807129459. 3
212807129460. 4

Mathematics

Group Number :	24
Group Id :	212807748
Group Maximum Duration :	60
Group Minimum Duration :	60
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	200
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Common

Section Id :	212807880
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	15
Number of Questions to be attempted :	15

Section Marks : 75
Enable Mark as Answered Mark for Review and Clear Response : Yes
Maximum Instruction Time : 0
Sub-Section Number : 1
Sub-Section Id : 2128072539
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 886 Question Id : 21280732366 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

The matrix $\begin{bmatrix} 0 & 1 & -1 \\ -1 & 0 & 1 \\ 1 & -1 & 0 \end{bmatrix}$ is :

- (A) Symmetric matrix
- (B) Square matrix
- (C) Diagonal matrix
- (D) Skew-symmetric matrix
- (E) Scalar matrix

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

- (1) (B), (D) Only
- (2) (A), (B) Only
- (3) (D), (E) Only
- (4) (C), (D) Only

Options :

212807129461. 1
212807129462. 2
212807129463. 3
212807129464. 4

Question Number : 886 Question Id : 21280732366 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

आव्यूह $\begin{bmatrix} 0 & 1 & -1 \\ -1 & 0 & 1 \\ 1 & -1 & 0 \end{bmatrix}$ है:

- (A) सममित आव्यूह
 (B) वर्ग आव्यूह
 (C) विकर्ण आव्यूह
 (D) विषम सममित आव्यूह
 (E) अदिश आव्यूह

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (B), (D)
 (2) केवल (A), (B)
 (3) केवल (D), (E)
 (4) केवल (C), (D)

Options :

212807129461. 1
 212807129462. 2
 212807129463. 3
 212807129464. 4

Question Number : 887 Question Id : 21280732367 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

If $\begin{vmatrix} 2x & 3 \\ 5 & x \end{vmatrix} = \begin{vmatrix} 16 & 3 \\ 5 & 2 \end{vmatrix}$ the value of x is :

- (1) $x = \pm 16$
 (2) $x = \pm 4$
 (3) $x = \pm 2$
 (4) $x = \pm 3$

Options :

212807129465. 1
 212807129466. 2
 212807129467. 3
 212807129468. 4

Question Number : 887 Question Id : 21280732367 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

यदि $\begin{vmatrix} 2x & 3 \\ 5 & x \end{vmatrix} = \begin{vmatrix} 16 & 3 \\ 5 & 2 \end{vmatrix}$, x का मान है :

- (1) $x = \pm 16$
(2) $x = \pm 4$
(3) $x = \pm 2$
(4) $x = \pm 3$

Options :

212807129465. 1
212807129466. 2
212807129467. 3
212807129468. 4

Question Number : 888 Question Id : 21280732368 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

If $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$ then $A^2 - 5A =$

- (1) $7I$
(2) $-7I$
(3) $2I$
(4) $-3I$

Options :

212807129469. 1
212807129470. 2
212807129471. 3
212807129472. 4

Question Number : 888 Question Id : 21280732368 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

यदि $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$ तब $A^2 - 5A =$

- (1) $7I$
(2) $-7I$
(3) $2I$
(4) $-3I$

Options :

212807129469. 1
212807129470. 2
212807129471. 3
212807129472. 4

Question Number : 889 Question Id : 21280732369 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

If $|A| = 3$ and $A^{-1} = \begin{bmatrix} 3 & -1 \\ -5/3 & 2/3 \end{bmatrix}$ then $\text{adj } A$ is

(1) $\begin{bmatrix} 9 & 3 \\ 5 & 2 \end{bmatrix}$

(2) $\begin{bmatrix} -9 & 3 \\ -5 & 2 \end{bmatrix}$

(3) $\begin{bmatrix} 9 & -3 \\ -5 & 2 \end{bmatrix}$

(4) $\begin{bmatrix} -9 & 3 \\ 5 & -2 \end{bmatrix}$

Options :

212807129473. 1

212807129474. 2

212807129475. 3

212807129476. 4

Question Number : 889 Question Id : 21280732369 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

यदि $|A| = 3$ और $A^{-1} = \begin{bmatrix} 3 & -1 \\ -5/3 & 2/3 \end{bmatrix}$ तब $\text{adj } A$ है :

(1) $\begin{bmatrix} 9 & 3 \\ 5 & 2 \end{bmatrix}$

(2) $\begin{bmatrix} -9 & 3 \\ -5 & 2 \end{bmatrix}$

(3) $\begin{bmatrix} 9 & -3 \\ -5 & 2 \end{bmatrix}$

(4) $\begin{bmatrix} -9 & 3 \\ 5 & -2 \end{bmatrix}$

Options :

212807129473. 1

212807129474. 2
212807129475. 3
212807129476. 4

Question Number : 890 Question Id : 21280732370 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

If the function $f(x) = \begin{cases} 3x - 8 & \text{if } x \leq 5 \\ 2K & \text{if } x > 5 \end{cases}$ is continuous, then the value of K is :

(1) $\frac{2}{7}$

(2) $\frac{7}{2}$

(3) $\frac{3}{7}$

(4) $\frac{4}{7}$

Options :

212807129477. 1
212807129478. 2
212807129479. 3
212807129480. 4

Question Number : 890 Question Id : 21280732370 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

यदि फलन $f(x) = \begin{cases} 3x - 8 & \text{यदि } x \leq 5 \\ 2K & \text{यदि } x > 5 \end{cases}$ संतत है, तब K का मान है :

(1) $\frac{2}{7}$

(2) $\frac{7}{2}$

(3) $\frac{3}{7}$

(4) $\frac{4}{7}$

Options :

212807129477. 1
212807129478. 2
212807129479. 3

Question Number : 891 Question Id : 21280732371 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

Equation of normal to the curve $y = x + \frac{1}{2} \sin 2x$ at $x = -\frac{\pi}{2}$ is :

- (1) $x + \pi = 0$
 (2) $x = 2\pi$
 (3) $2x + \pi = 0$
 (4) $x - \pi = 0$

Options :

212807129481. 1
 212807129482. 2
 212807129483. 3
 212807129484. 4

Question Number : 891 Question Id : 21280732371 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

$x = -\frac{\pi}{2}$ पर वक्र $y = x + \frac{1}{2} \sin 2x$ के अभिलम्ब का समीकरण है :

- (1) $x + \pi = 0$
 (2) $x = 2\pi$
 (3) $2x + \pi = 0$
 (4) $x - \pi = 0$

Options :

212807129481. 1
 212807129482. 2
 212807129483. 3
 212807129484. 4

Question Number : 892 Question Id : 21280732372 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

A particle is moving along the curve $y = \frac{3}{4}x^4 + 3$. The point on the curve at which y -coordinate is changing thrice as fast as the x coordinate, is :

- (1) $(1, -\frac{9}{4})$
 (2) $(0, 3)$
 (3) $(1, \frac{15}{4})$
 (4) $(-1, \frac{15}{4})$

Options :

212807129485. 1
 212807129486. 2
 212807129487. 3
 212807129488. 4

Question Number : 892 Question Id : 21280732372 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

एक कण वक्र $y = \frac{3}{4}x^4 + 3$ के अनुदिश घूम रहा है। वह बिंदु जिसका y -निर्देशांक x निर्देशांक की तुलना में तीन गुना दर से परिवर्तित हो रहा हो, है :

- (1) $(1, -\frac{9}{4})$
 (2) $(0, 3)$
 (3) $(1, \frac{15}{4})$
 (4) $(-1, \frac{15}{4})$

Options :

212807129485. 1
 212807129486. 2
 212807129487. 3
 212807129488. 4

Question Number : 893 Question Id : 21280732373 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

The value of $\int_1^4 |x - 1| dx$ is :

(1) $\frac{9}{2}$

(2) $\frac{7}{2}$

(3) $\frac{5}{2}$

(4) $\frac{3}{2}$

Options :

212807129489. 1

212807129490. 2

212807129491. 3

212807129492. 4

Question Number : 893 Question Id : 21280732373 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

$\int_1^4 |x - 1| dx$ का मान है :

(1) $\frac{9}{2}$

(2) $\frac{7}{2}$

(3) $\frac{5}{2}$

(4) $\frac{3}{2}$

Options :

212807129489. 1

212807129490. 2

212807129491. 3

212807129492. 4

Question Number : 894 Question Id : 21280732374 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

The area of the region bounded by the curve $2y=3x-6$, y -axis and the line $y=2$ and $y=-3$ is :

- (1) 16 sq. units
- (2) 25 sq. units
- (3) $\frac{25}{3}$ sq. units
- (4) $\frac{16}{3}$ sq. units

Options :

- 212807129493. 1
- 212807129494. 2
- 212807129495. 3
- 212807129496. 4

Question Number : 894 Question Id : 21280732374 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

वक्र $2y=3x-6$, y -अक्ष और रेखा $y=2$ व $y=-3$ से घिरे भाग का क्षेत्रफल है :

- (1) 16 वर्ग इकाई
- (2) 25 वर्ग इकाई
- (3) $\frac{25}{3}$ वर्ग इकाई
- (4) $\frac{16}{3}$ वर्ग इकाई

Options :

- 212807129493. 1
- 212807129494. 2
- 212807129495. 3
- 212807129496. 4

Question Number : 895 Question Id : 21280732375 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

The sum of the order and degree of the differential equation $2x^3 \left(\frac{d^2y}{dx^2} \right)^4 + \frac{d^3y}{dx^3} + y = 0$ is :

- (1) 4
- (2) 5
- (3) 6
- (4) not defined

Options :

- 212807129497. 1
- 212807129498. 2
- 212807129499. 3

Question Number : 895 Question Id : 21280732375 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

अवकल समीकरण $2x^3 \left(\frac{d^2y}{dx^2} \right)^4 + \frac{d^3y}{dx^3} + y = 0$ की कोटि और घात का योग है :

- (1) 4
(2) 5
(3) 6
(4) परिभाषित नहीं

Options :

212807129497. 1
212807129498. 2
212807129499. 3
212807129500. 4

Question Number : 896 Question Id : 21280732376 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

The integrating factor of the differential equation $\frac{dy}{dx} + y = \frac{1+y}{x}$ is :

- (1) $\frac{e^x}{x}$
(2) $\frac{x}{e^x}$
(3) xe^x
(4) e^x

Options :

212807129501. 1
212807129502. 2
212807129503. 3
212807129504. 4

Question Number : 896 Question Id : 21280732376 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

अवकल समीकरण $\frac{dy}{dx} + y = \frac{1+y}{x}$ का समाकलन गुणक है :

(1) $\frac{e^{-x}}{x}$

(2) $\frac{x}{e^x}$

(3) xe^x

(4) e^x

Options :

212807129501. 1

212807129502. 2

212807129503. 3

212807129504. 4

Question Number : 897 Question Id : 21280732377 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

A pair of dice is thrown 3 times. If getting a doublet is considered a success, then the probability of two successes is :

(1) $\frac{1}{72}$

(2) $\frac{7}{72}$

(3) $\frac{5}{72}$

(4) $\frac{11}{72}$

Options :

212807129505. 1

212807129506. 2

212807129507. 3

212807129508. 4

Question Number : 897 Question Id : 21280732377 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

पासों का एक युग्म 3 बार उछाला गया। यदि द्विक की प्राप्ति को सफलता माना जाए तो दो सफलताओं की प्रायिकता है :

(1) $\frac{1}{72}$

(2) $\frac{7}{72}$

(3) $\frac{5}{72}$

(4) $\frac{11}{72}$

Options :

212807129505. 1

212807129506. 2

212807129507. 3

212807129508. 4

Question Number : 898 Question Id : 21280732378 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

Match List - I with List - II.

List - I

List - II

(A) $P(\bar{A} \cap B)$

(I) $P(A) + P(B)$

(B) $P(A \cap \bar{B})$

(II) $P(A) + P(B) - 2P(A \cap B)$

(C) $P[(A \cap \bar{B}) \cup (\bar{A} \cap B)]$

(III) $P(B) - P(A \cap B)$

(D) $P(A \cup B) + P(A \cap B)$

(IV) $P(A) - P(A \cap B)$

Choose the correct answer from the options given below :

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

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

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

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

Options :

212807129509. 1

212807129510. 2

212807129511. 3

212807129512. 4

Question Number : 898 Question Id : 21280732378 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

सूची-I से सूची-II का मिलान कीजिए :

सूची-I

सूची-II

(A) $P(\bar{A} \cap B)$

(I) $P(A) + P(B)$

(B) $P(A \cap \bar{B})$

(II) $P(A) + P(B) - 2P(A \cap B)$

(C) $P[(A \cap \bar{B}) \cup (\bar{A} \cap B)]$

(III) $P(B) - P(A \cap B)$

(D) $P(A \cup B) + P(A \cap B)$

(IV) $P(A) - P(A \cap B)$

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

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

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

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

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

Options :

212807129509. 1

212807129510. 2

212807129511. 3

212807129512. 4

Question Number : 899 Question Id : 21280732379 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

The value of objective function is maximum under linear constraints is

(1) at (0, 0)

(2) at the centre of feasible region

(3) at any point of feasible region

(4) at one of the corner points of the feasible region

Options :

212807129513. 1

212807129514. 2

212807129515. 3

212807129516. 4

Question Number : 899 Question Id : 21280732379 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

रैखिक व्यवरोधों के अंतर्गत उद्देश्य फलन का अधिकतम मान है :

- (1) $(0, 0)$ पर
- (2) सुसंगत क्षेत्र के केंद्र पर
- (3) सुसंगत क्षेत्र के किसी बिन्दु पर
- (4) सुसंगत क्षेत्र के एक कोनीय बिन्दु पर

Options :

212807129513. 1
212807129514. 2
212807129515. 3
212807129516. 4

Question Number : 900 Question Id : 21280732380 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

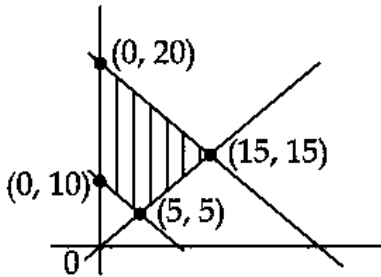
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

The feasible region of an LPP is shown in the figure below.

If $z = 3x + 9y$, then the minimum value of z occurs at :



- (1) $(0, 10)$
- (2) $(0, 20)$
- (3) $(5, 5)$
- (4) $(15, 15)$

Options :

212807129517. 1
212807129518. 2
212807129519. 3
212807129520. 4

Question Number : 900 Question Id : 21280732380 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

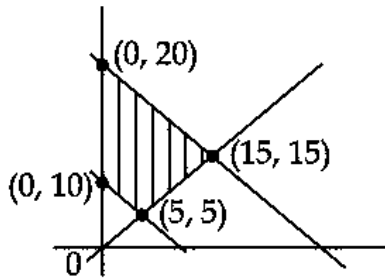
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ1

LPP का सुसंगत क्षेत्र नीचे चित्र में दर्शाया गया है।

यदि $z = 3x + 9y$, तब z का न्यूनतम मान है :



- (1) (0, 10) पर
- (2) (0, 20) पर
- (3) (5, 5) पर
- (4) (15, 15) पर

Options :

212807129517. 1
212807129518. 2
212807129519. 3
212807129520. 4

Core Mathematics

Section Id :	212807881
Section Number :	2
Section type :	Online
Mandatory or Optional :	Optional
Number of Questions :	35
Number of Questions to be attempted :	25
Section Marks :	125
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	2128072540
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 901 Question Id : 21280732381 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $f(x) = e^x$ and $g(x) = \log_e x = \ln x$, then $(g \circ f)(x)$ is

- (1) e
- (2) x
- (3) e^{2x}
- (4) $\log_e 2x$

Options :

212807129521. 1
212807129522. 2
212807129523. 3

Question Number : 901 Question Id : 21280732381 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $f(x) = e^x$ और $g(x) = \log_e x = \ln x$, तब $(g \circ f)(x)$ है :

- (1) e
- (2) x
- (3) e^{2x}
- (4) $\log_e 2x$

Options :

212807129521. 1
212807129522. 2
212807129523. 3
212807129524. 4

Question Number : 902 Question Id : 21280732382 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The region R on the set $A = \{x \in \mathbb{Z} : 0 \leq x \leq 12\}$, given by $R = \{(a, b) : |a - b| \text{ is a multiple of } 4\}$ is :

- (1) Reflexive but not Symmetric
- (2) Reflexive but not Transitive
- (3) Symmetric but not Transitive
- (4) Equivalence relation

Options :

212807129525. 1
212807129526. 2
212807129527. 3
212807129528. 4

Question Number : 902 Question Id : 21280732382 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

समुच्चय $A = \{x \in \mathbb{Z} : 0 \leq x \leq 12\}$ पर संबंध $R = \{(a, b) : |a - b| \text{ 4 का गुणज है}\}$, है :

- (1) स्वतुल्य परंतु सममित नहीं
- (2) स्वतुल्य परंतु संक्रामक नहीं
- (3) सममित परंतु संक्रामक नहीं
- (4) तुल्यता संबंध

Options :

212807129525. 1

212807129526. 2
212807129527. 3
212807129528. 4

Question Number : 903 Question Id : 21280732383 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The value of $\sin^{-1} \left[\cos \left(\sin^{-1} \frac{\sqrt{3}}{2} \right) \right]$ is :

(1) $\frac{\pi}{6}$

(2) $\frac{\pi}{3}$

(3) $\frac{\pi}{2}$

(4) $\frac{\pi}{4}$

Options :

212807129529. 1
212807129530. 2
212807129531. 3
212807129532. 4

Question Number : 903 Question Id : 21280732383 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

$\sin^{-1} \left[\cos \left(\sin^{-1} \frac{\sqrt{3}}{2} \right) \right]$ का मान है :

(1) $\frac{\pi}{6}$

(2) $\frac{\pi}{3}$

(3) $\frac{\pi}{2}$

(4) $\frac{\pi}{4}$

Options :

212807129529. 1
212807129530. 2
212807129531. 3

Question Number : 904 Question Id : 21280732384 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $2 \tan^{-1} \frac{1}{2} + \tan^{-1} \frac{1}{7} = \tan^{-1} x$, then value of x is :

(1) $\frac{31}{17}$

(2) $\frac{17}{31}$

(3) $\frac{4}{3}$

(4) $\frac{3}{4}$

Options :

212807129533. 1

212807129534. 2

212807129535. 3

212807129536. 4

Question Number : 904 Question Id : 21280732384 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $2 \tan^{-1} \frac{1}{2} + \tan^{-1} \frac{1}{7} = \tan^{-1} x$, तब x का मान है :

(1) $\frac{31}{17}$

(2) $\frac{17}{31}$

(3) $\frac{4}{3}$

(4) $\frac{3}{4}$

Options :

212807129533. 1

212807129534. 2

212807129535. 3

212807129536. 4

Question Number : 905 Question Id : 21280732385 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \begin{bmatrix} 3 & 1 \\ 2 & 5 \end{bmatrix} = \begin{bmatrix} 7 & 11 \\ K & 23 \end{bmatrix}$, then value of K is :

- (1) 12
- (2) - 17
- (3) 17
- (4) - 12

Options :

212807129537. 1
212807129538. 2
212807129539. 3
212807129540. 4

Question Number : 905 Question Id : 21280732385 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \begin{bmatrix} 3 & 1 \\ 2 & 5 \end{bmatrix} = \begin{bmatrix} 7 & 11 \\ K & 23 \end{bmatrix}$, तब K का मान है :

- (1) 12
- (2) - 17
- (3) 17
- (4) - 12

Options :

212807129537. 1
212807129538. 2
212807129539. 3
212807129540. 4

Question Number : 906 Question Id : 21280732386 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $A = \begin{pmatrix} 1 & -2 & 3 \\ -4 & 2 & 5 \end{pmatrix}$ and $B = \begin{pmatrix} 2 & 3 \\ 4 & 5 \\ 2 & 1 \end{pmatrix}$ and $BA = (b_{ij})$, then $b_{21} + b_{32} =$

- (1) -2
 (2) -16
 (3) 18
 (4) -18

Options :

212807129541. 1
 212807129542. 2
 212807129543. 3
 212807129544. 4

Question Number : 906 Question Id : 21280732386 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
 Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $A = \begin{pmatrix} 1 & -2 & 3 \\ -4 & 2 & 5 \end{pmatrix}$ तथा $B = \begin{pmatrix} 2 & 3 \\ 4 & 5 \\ 2 & 1 \end{pmatrix}$ एवं $BA = (b_{ij})$, तब $b_{21} + b_{32} =$

- (1) -2
 (2) -16
 (3) 18
 (4) -18

Options :

212807129541. 1
 212807129542. 2
 212807129543. 3
 212807129544. 4

Question Number : 907 Question Id : 21280732387 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
 Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $A = \begin{bmatrix} 1 & 3 & 5 \\ 1 & 0 & 3 \\ 0 & 1 & 0 \end{bmatrix}$, then $|\text{adj}A|$ is :

- (1) 2
 (2) 8
 (3) 4
 (4) 25

Options :

212807129545. 1
 212807129546. 2
 212807129547. 3
 212807129548. 4

Question Number : 907 Question Id : 21280732387 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

जब $A = \begin{bmatrix} 1 & 3 & 5 \\ 1 & 0 & 3 \\ 0 & 1 & 0 \end{bmatrix}$, तब $|(adjA)|$ है :

- (1) 2
 (2) 8
 (3) 4
 (4) 25

Options :

212807129545. 1
 212807129546. 2
 212807129547. 3
 212807129548. 4

Question Number : 908 Question Id : 21280732388 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The value of K, if $\begin{vmatrix} 1 & K & 3 \\ 3 & K & -2 \\ 2 & 3 & -1 \end{vmatrix} = 33$, is :

- (1) -1
 (2) 0
 (3) 1
 (4) 2

Options :

212807129549. 1
 212807129550. 2
 212807129551. 3
 212807129552. 4

Question Number : 908 Question Id : 21280732388 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $\begin{vmatrix} 1 & K & 3 \\ 3 & K & -2 \\ 2 & 3 & -1 \end{vmatrix} = 33$, K का मान है :

- (1) -1
 (2) 0
 (3) 1
 (4) 2

Options :

212807129549. 1
 212807129550. 2
 212807129551. 3
 212807129552. 4

Question Number : 909 Question Id : 21280732389 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The value of $\det(A^2 - 2A)$, if $A = \begin{pmatrix} 1 & 3 \\ 2 & 1 \end{pmatrix}$, is

- (1) 5
 (2) -5
 (3) 25
 (4) -25

Options :

212807129553. 1
 212807129554. 2
 212807129555. 3
 212807129556. 4

Question Number : 909 Question Id : 21280732389 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $A = \begin{pmatrix} 1 & 3 \\ 2 & 1 \end{pmatrix}$, $\det(A^2 - 2A)$ का मान है :

- (1) 5
 (2) -5
 (3) 25
 (4) -25

Options :

212807129553. 1
 212807129554. 2
 212807129555. 3

Question Number : 910 Question Id : 21280732390 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $\begin{vmatrix} x+4 & 2x & 2x \\ 2x & x+4 & 2x \\ 2x & 2x & x+4 \end{vmatrix} = \lambda(4-x)^2$, then value of λ is :

- (1) $\lambda = 4x + 5$
 (2) $\lambda = 5x + 4$
 (3) $\lambda = 4 - x$
 (4) $\lambda = x - 4$

Options :

212807129557. 1
 212807129558. 2
 212807129559. 3
 212807129560. 4

Question Number : 910 Question Id : 21280732390 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $\begin{vmatrix} x+4 & 2x & 2x \\ 2x & x+4 & 2x \\ 2x & 2x & x+4 \end{vmatrix} = \lambda(4-x)^2$, तब λ का मान है :

- (1) $\lambda = 4x + 5$
 (2) $\lambda = 5x + 4$
 (3) $\lambda = 4 - x$
 (4) $\lambda = x - 4$

Options :

212807129557. 1
 212807129558. 2
 212807129559. 3
 212807129560. 4

Question Number : 911 Question Id : 21280732391 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

For which value of λ is the function, $f(x) = \begin{cases} \lambda(x^2 - 2x) & \text{if } x \leq 0 \\ 4x + 1 & \text{if } x > 0 \end{cases}$ continuous at $x = 0$?

- (1) $\lambda = 0$
- (2) $\lambda = 1$
- (3) $\lambda = -1$
- (4) for no value of λ

Options :

212807129561. 1
212807129562. 2
212807129563. 3
212807129564. 4

Question Number : 911 Question Id : 21280732391 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

λ के किस मान के लिए फलन, $f(x) = \begin{cases} \lambda(x^2 - 2x) & \text{यदि } x \leq 0 \\ 4x + 1 & \text{यदि } x > 0 \end{cases}$ $x = 0$ पर संतत है।

- (1) $\lambda = 0$
- (2) $\lambda = 1$
- (3) $\lambda = -1$
- (4) λ के किसी मान के लिए नहीं।

Options :

212807129561. 1
212807129562. 2
212807129563. 3
212807129564. 4

Question Number : 912 Question Id : 21280732392 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The derivative $\frac{dy}{dx}$, if $x = a(\theta - \sin\theta)$, $y = a(1 + \cos\theta)$ is :

- (1) $\cos\frac{\theta}{2}$
- (2) $-\cot\frac{\theta}{2}$
- (3) $\cot\frac{\theta}{2}$
- (4) $\tan\frac{\theta}{2}$

Options :

- 212807129565. 1
- 212807129566. 2
- 212807129567. 3
- 212807129568. 4

Question Number : 912 Question Id : 21280732392 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $x = a(\theta - \sin\theta)$, $y = a(1 + \cos\theta)$, अवकलज $\frac{dy}{dx}$ है :

- (1) $\cos\frac{\theta}{2}$
- (2) $-\cot\frac{\theta}{2}$
- (3) $\cot\frac{\theta}{2}$
- (4) $\tan\frac{\theta}{2}$

Options :

- 212807129565. 1
- 212807129566. 2
- 212807129567. 3
- 212807129568. 4

Question Number : 913 Question Id : 21280732393 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $y = \sin^{-1}x$ and $(1 - x^2)\frac{d^2y}{dx^2} - x\frac{dy}{dx} = K$, then value of K is :

- (1) 2
- (2) $\frac{1}{2}$
- (3) 0
- (4) 1

Options :

- 212807129569. 1
- 212807129570. 2
- 212807129571. 3
- 212807129572. 4

Question Number : 913 Question Id : 21280732393 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $y = \sin^{-1}x$ और $(1-x^2)\frac{d^2y}{dx^2} - x\frac{dy}{dx} = K$, तब K का मान है :

(1) 2

(2) $\frac{1}{2}$

(3) 0

(4) 1

Options :

212807129569. 1

212807129570. 2

212807129571. 3

212807129572. 4

Question Number : 914 Question Id : 21280732394 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The tangent to the curve $x = \cos t(3 - 2\cos^2 t)$, $y = \sin t(3 - 2\sin^2 t)$ at $t = \frac{\pi}{4}$, makes with the x-axis an angle :

(1) 0

(2) $\frac{\pi}{4}$

(3) $\frac{\pi}{6}$

(4) $\frac{\pi}{3}$

Options :

212807129573. 1

212807129574. 2

212807129575. 3

212807129576. 4

Question Number : 914 Question Id : 21280732394 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

वक्र $x = \cos t(3 - 2\cos^2 t)$, $y = \sin t(3 - 2\sin^2 t)$ के लिए $t = \frac{\pi}{4}$ पर स्पर्श रेखा का x -अक्ष के साथ कोण है :

(1) 0

(2) $\frac{\pi}{4}$

(3) $\frac{\pi}{6}$

(4) $\frac{\pi}{3}$

Options :

212807129573. 1

212807129574. 2

212807129575. 3

212807129576. 4

Question Number : 915 Question Id : 21280732395 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The function $f(x) = \sin x + \cos x$, $0 \leq x \leq 2\pi$ is :

(1) strictly decreasing in $\left[0, \frac{\pi}{4}\right)$

(2) strictly increasing in $\left(\frac{\pi}{4}, \frac{5\pi}{4}\right)$

(3) strictly decreasing in $\left(\frac{5\pi}{4}, 2\pi\right]$

(4) strictly increasing in $\left(\frac{5\pi}{4}, 2\pi\right]$

Options :

212807129577. 1

212807129578. 2

212807129579. 3

212807129580. 4

Question Number : 915 Question Id : 21280732395 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

फलन $f(x) = \sin x + \cos x$, $0 \leq x \leq 2\pi$ है :

(1) $\left[0, \frac{\pi}{4}\right)$ में निरंतर ह्रासमान है

(2) $\left(\frac{\pi}{4}, \frac{5\pi}{4}\right)$ में निरंतर वर्धमान है

(3) $\left(\frac{5\pi}{4}, 2\pi\right]$ में निरंतर ह्रासमान है

(4) $\left(\frac{5\pi}{4}, 2\pi\right]$ में निरंतर वर्धमान है

Options :

212807129577. 1

212807129578. 2

212807129579. 3

212807129580. 4

Question Number : 916 Question Id : 21280732396 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The value of C in Rolle's theorem for the function $f(x) = e^x \sin x$, $x \in [0, \pi]$, is :

(1) $\frac{\pi}{6}$

(2) $\frac{\pi}{4}$

(3) $\frac{\pi}{2}$

(4) $\frac{3\pi}{4}$

Options :

212807129581. 1

212807129582. 2

212807129583. 3

212807129584. 4

Question Number : 916 Question Id : 21280732396 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

रैले प्रमेय में फलन $f(x) = e^x \sin x$, $x \in [0, \pi]$, के लिए C का मान है :

(1) $\frac{\pi}{6}$

(2) $\frac{\pi}{4}$

(3) $\frac{\pi}{2}$

(4) $\frac{3\pi}{4}$

Options :

212807129581. 1

212807129582. 2

212807129583. 3

212807129584. 4

Question Number : 917 Question Id : 21280732397 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

$$\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \frac{1}{1 + \sqrt{\cot x}} dx =$$

(1) $\frac{\pi}{12}$

(2) $\frac{\pi^2}{12}$

(3) $\frac{\pi}{6}$

(4) $\frac{\pi}{2}$

Options :

212807129585. 1

212807129586. 2

212807129587. 3

212807129588. 4

Question Number : 917 Question Id : 21280732397 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

$$\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \frac{1}{1 + \sqrt{\cot x}} dx =$$

(1) $\frac{\pi}{12}$

(2) $\frac{\pi^2}{12}$

(3) $\frac{\pi}{6}$

(4) $\frac{\pi}{2}$

Options :

212807129585. 1

212807129586. 2

212807129587. 3

212807129588. 4

Question Number : 918 Question Id : 21280732398 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If $\int e^x (\tan x + 1) \sec x dx = e^x f(x) + C$, then $f(x)$ is :

(A) e^x

(B) $\tan x$

(C) $\sec x$

(D) $\sec x \tan x$

Choose the correct answer from the options given below :

(1) (A) Only

(2) (B) Only

(3) (C) Only

(4) (D) Only

Options :

212807129589. 1

212807129590. 2

212807129591. 3

212807129592. 4

Question Number : 918 Question Id : 21280732398 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि $\int e^x (\tan x + 1) \sec x dx = e^x f(x) + C$, तब $f(x)$ है :

- (A) e^x
- (B) $\tan x$
- (C) $\sec x$
- (D) $\sec x \tan x$

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A)
- (2) केवल (B)
- (3) केवल (C)
- (4) केवल (D)

Options :

- 212807129589. 1
- 212807129590. 2
- 212807129591. 3
- 212807129592. 4

Question Number : 919 Question Id : 21280732399 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The ratio of areas under the curves $y = \sin x$ and $y = \sin 2x$, from $x = 0$ to $x = \frac{\pi}{3}$ is :

- (1) 3 : 2
- (2) 2 : 3
- (3) $\sqrt{3} : 1$
- (4) $1 : \sqrt{3}$

Options :

- 212807129593. 1
- 212807129594. 2
- 212807129595. 3
- 212807129596. 4

Question Number : 919 Question Id : 21280732399 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

वक्रों $y = \sin x$ व $y = \sin 2x$ के अन्तर्गत पर $x = 0$ से $x = \frac{\pi}{3}$ के बीच क्षेत्रफलों का अनुपात है :

- (1) 3 : 2
(2) 2 : 3
(3) $\sqrt{3} : 1$
(4) $1 : \sqrt{3}$

Options :

212807129593. 1
212807129594. 2
212807129595. 3
212807129596. 4

Question Number : 920 Question Id : 21280732400 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The area of the region bounded by the curve $y^2 = 4x$, y -axis and the line $y = 2$, is :

- (1) $\frac{2}{3}$ sq. units
(2) $\frac{4}{3}$ sq. units
(3) $\frac{3}{2}$ sq. units
(4) $\frac{3}{4}$ sq. units

Options :

212807129597. 1
212807129598. 2
212807129599. 3
212807129600. 4

Question Number : 920 Question Id : 21280732400 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

वक्र $y^2 = 4x$, y -axis और रेखा $y = 2$ से घिरे क्षेत्र का क्षेत्रफल है :

- (1) $\frac{2}{3}$ वर्ग इकाई
- (2) $\frac{4}{3}$ वर्ग इकाई
- (3) $\frac{3}{2}$ वर्ग इकाई
- (4) $\frac{3}{4}$ वर्ग इकाई

Options :

212807129597. 1
212807129598. 2
212807129599. 3
212807129600. 4

Question Number : 921 Question Id : 21280732401 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The number of solutions of the equation $xydx - (x^2 - y^2)dy = 0$ with $y(2) = 3$ is :

- (1) None
- (2) One
- (3) Two
- (4) Infinite

Options :

212807129601. 1
212807129602. 2
212807129603. 3
212807129604. 4

Question Number : 921 Question Id : 21280732401 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

$y(2) = 3$ के साथ समीकरण $xydx - (x^2 - y^2)dy = 0$ के हलों की संख्या है :

- (1) कोई हल नहीं
- (2) एक
- (3) दो
- (4) अनंत हल

Options :

212807129601. 1
212807129602. 2

212807129603. 3
212807129604. 4

Question Number : 922 Question Id : 21280732402 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

Solution of a differential equation $(1 + y^2)dx = (\tan^{-1}y - x)dy$ is :

(1) $ye^{\tan^{-1}y} = e^{\tan^{-1}y}(\tan^{-1}y + 1) + C$

(2) $ye^{\tan^{-1}y} = e^{\tan^{-1}y}(\tan^{-1}y - 1) + C$

(3) $xe^{\tan^{-1}y} = e^{\tan^{-1}y}(\tan^{-1}y - 1) + C$

(4) $xe^{\tan^{-1}y} = e^{\tan^{-1}y}(\tan^{-1}y + 1) + C$

(where C is the constant of Integration)

Options :

212807129605. 1
212807129606. 2
212807129607. 3
212807129608. 4

Question Number : 922 Question Id : 21280732402 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

अवकलन समीकरण $(1 + y^2)dx = (\tan^{-1}y - x)dy$ का हल है :

(1) $ye^{\tan^{-1}y} = e^{\tan^{-1}y}(\tan^{-1}y + 1) + C$

(2) $ye^{\tan^{-1}y} = e^{\tan^{-1}y}(\tan^{-1}y - 1) + C$

(3) $xe^{\tan^{-1}y} = e^{\tan^{-1}y}(\tan^{-1}y - 1) + C$

(4) $xe^{\tan^{-1}y} = e^{\tan^{-1}y}(\tan^{-1}y + 1) + C$

(यहाँ C स्वेच्छ अचर है)

Options :

212807129605. 1
212807129606. 2
212807129607. 3
212807129608. 4

Question Number : 923 Question Id : 21280732403 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

A vector \vec{r} is inclined at equal angles to the three axes. If the magnitude of \vec{r} is $3\sqrt{3}$ units, then the value of \vec{r} is :

(1) $\pm 3(\hat{i} + \hat{j} + \hat{k})$

(2) $\pm 2(\hat{i} + \hat{j} + \hat{k})$

(3) $\pm(\hat{i} + \hat{j} + \hat{k})$

(4) $\pm 3(\hat{i} - \hat{j} - \hat{k})$

Options :

212807129609. 1

212807129610. 2

212807129611. 3

212807129612. 4

Question Number : 923 Question Id : 21280732403 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

एक सदिश \vec{r} तीनों अक्षों से समान कोणों पर झुका हुआ है। यदि सदिश \vec{r} का परिमाण $3\sqrt{3}$ इकाई है, तो सदिश \vec{r} का मान है :

(1) $\pm 3(\hat{i} + \hat{j} + \hat{k})$

(2) $\pm 2(\hat{i} + \hat{j} + \hat{k})$

(3) $\pm(\hat{i} + \hat{j} + \hat{k})$

(4) $\pm 3(\hat{i} - \hat{j} - \hat{k})$

Options :

212807129609. 1

212807129610. 2

212807129611. 3

212807129612. 4

Question Number : 924 Question Id : 21280732404 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

Which is true from the following ?

(A) Any vector \vec{r} in space can be written as $\left(\vec{r} \cdot \hat{i}\right)\hat{i} + \left(\vec{r} \cdot \hat{j}\right)\hat{j} + \left(\vec{r} \cdot \hat{k}\right)\hat{k}$

(B) If \vec{a} is perpendicular to \vec{b} , $|\vec{a} + \vec{b}|^2 = |\vec{a}|^2 + |\vec{b}|^2$

(C) If $|\vec{a}| = 2, |\vec{b}| = 1$ and $\vec{a} \cdot \vec{b} = 1$, the value of $(3\vec{a} - 5\vec{b}) \cdot (2\vec{a} + 7\vec{b})$ is 1

(D) $\vec{a} = 5\hat{i} - \hat{j} - 3\hat{k}$ and $\vec{b} = \hat{i} + 3\hat{j} - 5\hat{k}$, the angle between $\vec{a} + \vec{b}$ and $\vec{a} - \vec{b}$ is 60°

Choose the correct answer from the options given below :

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

Options :

212807129613. 1

212807129614. 2

212807129615. 3

212807129616. 4

Question Number : 924 Question Id : 21280732404 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

निम्नलिखित में से कौन सा सत्य है?

(A) कोई भी स्थानिक सदिश \vec{r} , लिखा जा सकता है ; $(\vec{r} \cdot \hat{i})\hat{i} + (\vec{r} \cdot \hat{j})\hat{j} + (\vec{r} \cdot \hat{k})\hat{k}$

(B) यदि \vec{a} , \vec{b} पर लम्ब है $|\vec{a} + \vec{b}|^2 = |\vec{a}|^2 + |\vec{b}|^2$

(C) यदि $|\vec{a}|=2, |\vec{b}|=1$ और $\vec{a} \cdot \vec{b}=1$, $(3\vec{a} - 5\vec{b}) \cdot (2\vec{a} + 7\vec{b})$ का मान 1 है

(D) $\vec{a} = 5\hat{i} - \hat{j} - 3\hat{k}$ और $\vec{b} = \hat{i} + 3\hat{j} - 5\hat{k}$, $\vec{a} + \vec{b}$ और $\vec{a} - \vec{b}$ के मध्य कोण 60° है

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A) और (B)
- (2) केवल (B)
- (3) केवल (C)
- (4) केवल (D)

Options :

212807129613. 1
212807129614. 2
212807129615. 3
212807129616. 4

Question Number : 925 Question Id : 21280732405 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

If the planes $\vec{r} \cdot (2\hat{i} - \lambda\hat{j} + 3\hat{k}) = 0$ and $\vec{r} \cdot (\lambda\hat{i} + 5\hat{j} - \hat{k}) = 5$ are perpendicular to each other, then value of $\lambda^2 + \lambda$ is :

- (1) 0
- (2) - 2
- (3) - 1
- (4) 2

Options :

212807129617. 1
212807129618. 2
212807129619. 3
212807129620. 4

Question Number : 925 Question Id : 21280732405 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

यदि तल $\vec{r} \cdot (2\hat{i} - \lambda\hat{j} + 3\hat{k}) = 0$ और $\vec{r} \cdot (\lambda\hat{i} + 5\hat{j} - \hat{k}) = 5$ एक-दूसरे पर लम्ब हैं, तो $\lambda^2 + \lambda$ का मान है :

- (1) 0
- (2) -2
- (3) -1
- (4) 2

Options :

212807129617. 1
212807129618. 2
212807129619. 3
212807129620. 4

Question Number : 926 Question Id : 21280732406 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

The lines $\frac{x-2}{1} = \frac{y-3}{1} = \frac{z-4}{-K}$ and $\frac{x-1}{K} = \frac{y-4}{2} = \frac{z-5}{1}$ are coplanar if :

- (1) $K=0$ or $K=-1$
- (2) $K=1$ or -1
- (3) $K=0$ or -3
- (4) $K=3$ or -3

Options :

212807129621. 1
212807129622. 2
212807129623. 3
212807129624. 4

Question Number : 926 Question Id : 21280732406 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

रेखाएँ $\frac{x-2}{1} = \frac{y-3}{1} = \frac{z-4}{-K}$ और $\frac{x-1}{K} = \frac{y-4}{2} = \frac{z-5}{1}$ एक तलीय हैं यदि :

- (1) $K=0$ या $K=-1$
- (2) $K=1$ या -1
- (3) $K=0$ या -3
- (4) $K=3$ या -3

Options :

212807129621. 1
212807129622. 2
212807129623. 3
212807129624. 4

Question Number : 927 Question Id : 21280732407 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

Corners points of the feasible region for an LPP are $(1, 1)$ $(2, 0)$ $(3, 1)$ $\left(\frac{3}{2}, 4\right)$, and $(0, 5)$. Let $z = px + 4y$, $p > 0$ be the objective function. If maximum of z occurs at $\left(\frac{3}{2}, 4\right)$ and $(3, 1)$, then the value of p is :

- (1) 2
- (2) 4
- (3) 6
- (4) 8

Options :

- 212807129625. 1
- 212807129626. 2
- 212807129627. 3
- 212807129628. 4

Question Number : 927 Question Id : 21280732407 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

एक LPP के लिए सुसंगत क्षेत्र के कोनीय बिन्दु $(1, 1)$ $(2, 0)$ $(3, 1)$ $\left(\frac{3}{2}, 4\right)$ एवं $(0, 5)$ हैं। माना $z = px + 4y$, $p > 0$ उद्देश्य फलन है। यदि $\left(\frac{3}{2}, 4\right)$ और $(3, 1)$ पर z अधिकतम हो, तो p का मान है :

- (1) 2
- (2) 4
- (3) 6
- (4) 8

Options :

- 212807129625. 1
- 212807129626. 2
- 212807129627. 3
- 212807129628. 4

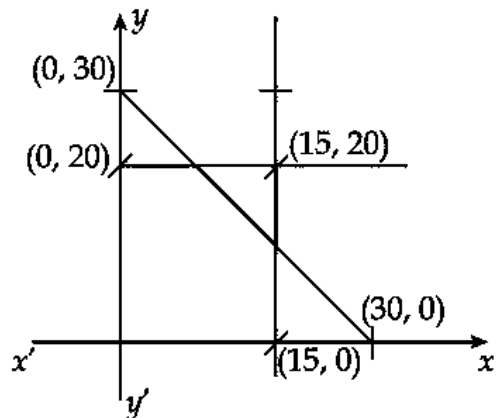
Question Number : 928 Question Id : 21280732408 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

Objective function $z = 30x - 30y$ is subject to which combination of constraints, with feasible solution shown in the figure.



- (A) $x \geq 0, y \geq 0, x \leq 15$
- (B) $y \leq 20, x + y \leq 30$
- (C) $x + y \leq 30, x + y \leq 15, 2x - y \leq 5$
- (D) $2x + y \leq 30, x + y \leq 15, x \geq 15$
- (E) $3x + y \leq 30, x + 3y \leq 15, y \geq 20$

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

- (1) (A), (B) and (C) Only
- (2) (A) and (B) Only
- (3) (A) and (D) Only
- (4) (A) and (E) Only

Options :

- 212807129629. 1
- 212807129630. 2
- 212807129631. 3
- 212807129632. 4

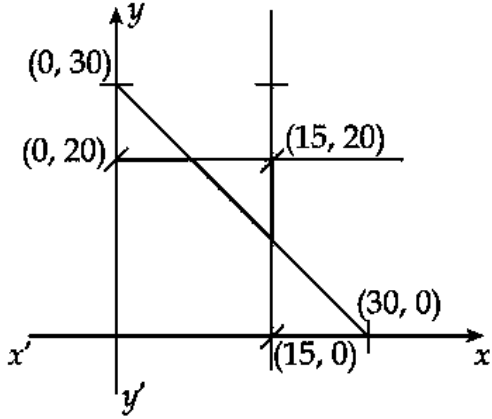
Question Number : 928 Question Id : 21280732408 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

नीचे दर्शाये गये चित्र के अनुसार किन व्यवरोधों संयोजन के अन्तर्गत उद्देश्य फलन $z = 30x - 30y$ का सुसंगत हल है :



- (A) $x \geq 0, y \geq 0, x \leq 15$
 (B) $y \leq 20, x + y \leq 30$
 (C) $x + y \leq 30, x + y \leq 15, 2x - y \leq 5$
 (D) $2x + y \leq 30, x + y \leq 15, x \geq 15$
 (E) $3x + y \leq 30, x + 3y \leq 15, y \geq 20$

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A), (B) और (C)
 (2) केवल (A) और (B)
 (3) केवल (A) और (D)
 (4) केवल (A) और (E)

Options :

212807129629. 1
 212807129630. 2
 212807129631. 3
 212807129632. 4

Question Number : 929 Question Id : 21280732409 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

Anita and Bikram are two students. Their chances of solving a problem correctly are $\frac{1}{3}$ and $\frac{1}{4}$ respectively. If their probability of making a common error is $\frac{1}{20}$ and they both obtain same answer then the probability that their answer is correct, is :

(1) $\frac{1}{12}$

(2) $\frac{1}{40}$

(3) $\frac{13}{120}$

(4) $\frac{10}{13}$

Options :

212807129633. 1

212807129634. 2

212807129635. 3

212807129636. 4

Question Number : 929 Question Id : 21280732409 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

अनीता और बिक्रम दो विद्यार्थी हैं। उनके द्वारा प्रश्न को सही हल करने की संभावना क्रमशः $\frac{1}{3}$ और $\frac{1}{4}$ है। यदि सामान्य त्रुटि करने की उनकी प्रायिकता $\frac{1}{20}$ है और वे दोनों समान हल प्राप्त करते हैं, तो उनके हल के सही होने की प्रायिकता है :

(1) $\frac{1}{12}$

(2) $\frac{1}{40}$

(3) $\frac{13}{120}$

(4) $\frac{10}{13}$

Options :

212807129633. 1

212807129634. 2

212807129635. 3

212807129636. 4

Question Number : 930 Question Id : 21280732410 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

In a box containing 100 bulbs, 10 are defective. The probability that out of a sample of 5 bulbs none is defective, is :

(1) $\frac{1}{10}$

(2) $\left(\frac{1}{2}\right)^5$

(3) $\left(\frac{9}{10}\right)^5$

(4) $\frac{9}{10}$

Options :

212807129637. 1

212807129638. 2

212807129639. 3

212807129640. 4

Question Number : 930 Question Id : 21280732410 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ2

एक बॉक्स में 100 बल्ब हैं जिसमें 10 त्रुटियुक्त हैं। 5 बल्ब के नमूने में से किसी भी बल्ब के त्रुटियुक्त न होने की प्रायिकता है :

(1) $\frac{1}{10}$

(2) $\left(\frac{1}{2}\right)^5$

(3) $\left(\frac{9}{10}\right)^5$

(4) $\frac{9}{10}$

Options :

212807129637. 1

212807129638. 2

212807129639. 3

212807129640. 4

Sub-Section Number :

2

Sub-Section Id :

2128072541

Question Shuffling Allowed :

No

Is Section Default? :

null

Question Number : 931 Question Id : 21280732411 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Compl

The value of $\sin^{-1} \frac{12}{13} + \cos^{-1} \frac{4}{5} + \tan^{-1} \frac{63}{16}$ is :

(1) $\frac{\pi}{2}$

(2) π

(3) $\frac{\pi}{3}$

(4) $\frac{\pi}{4}$

Options :

212807129641. 1

212807129642. 2

212807129643. 3

212807129644. 4

Question Number : 931 Question Id : 21280732411 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Compl

$\sin^{-1} \frac{12}{13} + \cos^{-1} \frac{4}{5} + \tan^{-1} \frac{63}{16}$ का मान है :

(1) $\frac{\pi}{2}$

(2) π

(3) $\frac{\pi}{3}$

(4) $\frac{\pi}{4}$

Options :

212807129641. 1

212807129642. 2

212807129643. 3

212807129644. 4

Question Number : 932 Question Id : 21280732412 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Compl

If $I = \int_0^4 \frac{\sqrt{x}}{\sqrt{x} + \sqrt{4-x}} dx$, then $8I$ is :

- (1) 8
(2) 6
(3) 16
(4) 4

Options :

212807129645. 1
212807129646. 2
212807129647. 3
212807129648. 4

Question Number : 932 Question Id : 21280732412 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Compl

यदि $I = \int_0^4 \frac{\sqrt{x}}{\sqrt{x} + \sqrt{4-x}} dx$, तब $8I$ है :

- (1) 8
(2) 6
(3) 16
(4) 4

Options :

212807129645. 1
212807129646. 2
212807129647. 3
212807129648. 4

Question Number : 933 Question Id : 21280732413 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Compl

The area of the region $\{(x, y) : x^2 + y^2 \leq 2ax, y^2 \geq ax, x \geq 0, y \geq 0\}$ $a > 0$, is :

(1) $\left(\frac{\pi}{4} - \frac{2}{3}\right) a^2$ sq. units

(2) $\left(\frac{\pi}{4} + \frac{2}{3}\right) a^2$ sq. units

(3) $\left(\frac{\pi}{3} + \frac{4}{3}\right) a^2$ sq. units

(4) $\left(\frac{\pi}{3} - \frac{4}{3}\right) a^2$ sq. units

Options :

212807129649. 1

212807129650. 2

212807129651. 3

212807129652. 4

Question Number : 933 Question Id : 21280732413 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Compl

$\{(x, y) : x^2 + y^2 \leq 2ax, y^2 \geq ax, x \geq 0, y \geq 0\}$ $a > 0$, क्षेत्र का क्षेत्रफल है :

(1) $\left(\frac{\pi}{4} - \frac{2}{3}\right) a^2$ वर्ग इकाई

(2) $\left(\frac{\pi}{4} + \frac{2}{3}\right) a^2$ वर्ग इकाई

(3) $\left(\frac{\pi}{3} + \frac{4}{3}\right) a^2$ वर्ग इकाई

(4) $\left(\frac{\pi}{3} - \frac{4}{3}\right) a^2$ वर्ग इकाई

Options :

212807129649. 1

212807129650. 2

212807129651. 3

212807129652. 4

Question Number : 934 Question Id : 21280732414 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Compl

The coordinates of the foot of the perpendicular drawn from origin to the plane $2x - 3y + 4z - 6 = 0$ is :

(1) $\left(-\frac{12}{29}, \frac{18}{29}, \frac{24}{29}\right)$

(2) $\left(-\frac{12}{29}, -\frac{18}{29}, -\frac{24}{29}\right)$

(3) $\left(\frac{12}{29}, \frac{18}{29}, \frac{24}{29}\right)$

(4) $\left(\frac{12}{29}, -\frac{18}{29}, \frac{24}{29}\right)$

Options :

212807129653. 1

212807129654. 2

212807129655. 3

212807129656. 4

Question Number : 934 Question Id : 21280732414 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Compl

मूलबिन्दु से समतल $2x - 3y + 4z - 6 = 0$ पर खींचे गये लम्ब के पाद के निर्देशांक हैं :

(1) $\left(-\frac{12}{29}, \frac{18}{29}, \frac{24}{29}\right)$

(2) $\left(-\frac{12}{29}, -\frac{18}{29}, -\frac{24}{29}\right)$

(3) $\left(\frac{12}{29}, \frac{18}{29}, \frac{24}{29}\right)$

(4) $\left(\frac{12}{29}, -\frac{18}{29}, \frac{24}{29}\right)$

Options :

212807129653. 1

212807129654. 2

212807129655. 3

212807129656. 4

Question Number : 935 Question Id : 21280732415 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Compl

The mean of the Binomial distribution $B\left(4, \frac{1}{3}\right)$ is :

(1) $\frac{4}{3}$

(2) $\frac{2}{3}$

(3) $\frac{8}{3}$

(4) $\frac{1}{3}$

Options :

212807129657. 1

212807129658. 2

212807129659. 3

212807129660. 4

Question Number : 935 Question Id : 21280732415 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Compl

द्विपद बंटन $B\left(4, \frac{1}{3}\right)$ का माध्य है :

(1) $\frac{4}{3}$

(2) $\frac{2}{3}$

(3) $\frac{8}{3}$

(4) $\frac{1}{3}$

Options :

212807129657. 1

212807129658. 2

212807129659. 3

212807129660. 4

Applied Mathematics

Section Id :	212807882
Section Number :	3
Section type :	Online
Mandatory or Optional :	Optional
Number of Questions :	35
Number of Questions to be attempted :	25
Section Marks :	125
Enable Mark as Answered Mark for Review and Clear Response :	Yes

Maximum Instruction Time : 0
Sub-Section Number : 1
Sub-Section Id : 2128072542
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 936 Question Id : 21280732416 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

If $\frac{x+y}{x-y} + \frac{x-y}{x+y} = \frac{10}{3}$, then $\frac{x}{y} =$

- (1) ± 2
(2) ± 1
(3) ± 4
(4) Not possible to find out

Options :

212807129661. 1
212807129662. 2
212807129663. 3
212807129664. 4

Question Number : 936 Question Id : 21280732416 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

यदि $\frac{x+y}{x-y} + \frac{x-y}{x+y} = \frac{10}{3}$, तब $\frac{x}{y} =$

- (1) ± 2
(2) ± 1
(3) ± 4
(4) ज्ञात करना संभव नहीं

Options :

212807129661. 1
212807129662. 2
212807129663. 3
212807129664. 4

Question Number : 937 Question Id : 21280732417 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

(6 : 30 + 19 : 50), in 24 hours clock is :

- (1) 2 : 20
- (2) 1 : 80
- (3) 14 : 20
- (4) 13 : 80

Options :

- 212807129665. 1
- 212807129666. 2
- 212807129667. 3
- 212807129668. 4

Question Number : 937 Question Id : 21280732417 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

24 घंटों में (6 : 30 + 19 : 50) है :

- (1) 2 : 20
- (2) 1 : 80
- (3) 14 : 20
- (4) 13 : 80

Options :

- 212807129665. 1
- 212807129666. 2
- 212807129667. 3
- 212807129668. 4

Question Number : 938 Question Id : 21280732418 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

A shopkeeper purchases 40 kg of rice at the rate of ₹ 35 per kg and 50 kg of rice at the rate of ₹ 40 per kg. If he sells the mixture to make a profit of 20%, the corresponding selling price for this transaction is :

- (1) ₹ 45.33/kg
- (2) ₹ 47.67/kg
- (3) ₹ 35.39/kg
- (4) ₹ 37.30/kg

Options :

- 212807129669. 1
- 212807129670. 2
- 212807129671. 3
- 212807129672. 4

Question Number : 938 Question Id : 21280732418 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

एक दुकानदार 40 किग्रा. चावल ₹ 35 प्रति किलो की दर से और 50 किग्रा. चावल ₹ 40 प्रति किग्रा. की दर से खरीदता है। यदि वह इस मिश्रण को 20% लाभ पर बेचता है तो इस सौदे का संगत विक्रय मूल्य है :

- (1) ₹ 45.33/किग्रा.
- (2) ₹ 47.67/किग्रा.
- (3) ₹ 35.39/किग्रा.
- (4) ₹ 37.30/किग्रा.

Options :

212807129669. 1
 212807129670. 2
 212807129671. 3
 212807129672. 4

Question Number : 939 Question Id : 21280732419 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

A boat goes upstream at $\frac{b}{2}$ km/hr and downstream at $\frac{a}{2}$ km/hr. The speed of boat in still water in km/hr is :

- (1) $\left(\frac{b-a}{2}\right)$ km/hr
- (2) $\left(\frac{b-a}{4}\right)$ km/hr
- (3) $\left(\frac{a-b}{4}\right)$ km/hr
- (4) $\left(\frac{a+b}{4}\right)$ km/hr

Options :

212807129673. 1
 212807129674. 2
 212807129675. 3
 212807129676. 4

Question Number : 939 Question Id : 21280732419 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

एक नाव ऊर्ध्व प्रवाह में $\frac{b}{2}$ किमी./घं. और अनुप्रवाह में $\frac{a}{2}$ किमी./घं. जाती है। शान्त जल में नाव की चाल किमी./घं. है :

(1) $\left(\frac{b-a}{2}\right)$ किमी./घं.

(2) $\left(\frac{b-a}{4}\right)$ किमी./घं.

(3) $\left(\frac{a-b}{4}\right)$ किमी./घं.

(4) $\left(\frac{a+b}{4}\right)$ किमी./घं.

Options :

212807129673. 1

212807129674. 2

212807129675. 3

212807129676. 4

Question Number : 940 Question Id : 21280732420 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Three pipes A, B and C can fill an empty tank together in 8 hours. After working at it together for 2 hours B is closed and A and C can fill the remaining part in 9 hours. Pipe B can fill the empty tank in :

(1) 12 hours

(2) 16 hours

(3) 20 hours

(4) 24 hours

Options :

212807129677. 1

212807129678. 2

212807129679. 3

212807129680. 4

Question Number : 940 Question Id : 21280732420 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

तीन पाइप A, B और C एक खाली टैंक को एक साथ 8 घण्टे में भर सकते हैं। एक साथ 2 घण्टे कार्य करने के बाद B को बन्द कर दिया गया और A एवं C शेष भाग को 9 घण्टे में भर सकते हैं। पाइप B खाली टैंक भर सकता है :

- (1) 12 घण्टे में
- (2) 16 घण्टे में
- (3) 20 घण्टे में
- (4) 24 घण्टे में

Options :

212807129677. 1
212807129678. 2
212807129679. 3
212807129680. 4

Question Number : 941 Question Id : 21280732421 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

If $\frac{2-x}{4} - \frac{4+x}{6} \geq 10$ then :

- (1) $x \geq -\frac{122}{5}$
- (2) $x \geq -\frac{5}{122}$
- (3) $x \leq -\frac{122}{5}$
- (4) $x \leq -\frac{5}{122}$

Options :

212807129681. 1
212807129682. 2
212807129683. 3
212807129684. 4

Question Number : 941 Question Id : 21280732421 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

यदि $\frac{2-x}{4} - \frac{4+x}{6} \geq 10$ तब :

(1) $x \geq -\frac{122}{5}$

(2) $x \geq -\frac{5}{122}$

(3) $x \leq -\frac{122}{5}$

(4) $x \leq -\frac{5}{122}$

Options :

- 212807129681. 1
- 212807129682. 2
- 212807129683. 3
- 212807129684. 4

Question Number : 942 Question Id : 21280732422 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

If A and B are symmetric matrices, then which statements are correct ?

- (A) $(A - B)' = B' - A'$
- (B) $(AB + BA)$ is symmetric matrix
- (C) $(AB)' = B'A'$
- (D) $A'B' = B'A'$
- (E) $(AB - BA)$ is skew symmetric matrix

Choose the correct answer from the options given below :

- (1) (A), (C) and (E) Only
- (2) (B), (D) and (E) Only
- (3) (B), (C) and (E) Only
- (4) (A), (B) and (E) Only

Options :

- 212807129685. 1
- 212807129686. 2
- 212807129687. 3
- 212807129688. 4

Question Number : 942 Question Id : 21280732422 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

यदि A और B सममित आव्यूह हैं, तब कौनसे कथन सही हैं ?

- (A) $(A - B)' = B' - A'$
(B) $(AB + BA)$ सममित आव्यूह है
(C) $(AB)' = B'A'$
(D) $A'B' = B'A'$
(E) $(AB - BA)$ विषम सममित आव्यूह है

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A), (C) और (E)
(2) केवल (B), (D) और (E)
(3) केवल (B), (C) और (E)
(4) केवल (A), (B) और (E)

Options :

212807129685. 1
212807129686. 2
212807129687. 3
212807129688. 4

Question Number : 943 Question Id : 21280732423 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Match List - I with List - II.

List - I

List - II

(A) Null matrix

(I)
$$\begin{bmatrix} 5 & 0 & 0 \\ 0 & 5 & 0 \\ 0 & 0 & 5 \end{bmatrix}$$

(B) Scalar matrix

(II)
$$\begin{bmatrix} 0 & -5 & -3 \\ 5 & 0 & -2 \\ 3 & 2 & 0 \end{bmatrix}$$

(C) Skew-symmetric matrix

(III)
$$\begin{bmatrix} 1 & 7 & 2 \\ 7 & 5 & 3 \\ 2 & 3 & 6 \end{bmatrix}$$

(D) Symmetric matrix

(IV) both symmetric and skew-symmetric

Choose the correct answer from the options given below :

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

Options :

212807129689. 1
 212807129690. 2
 212807129691. 3
 212807129692. 4

Question Number : 943 Question Id : 21280732423 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

सूची-I से सूची-II का मिलान कीजिए :

सूची-I

सूची-II

(A) शून्य आव्यूह

(I)

$$\begin{bmatrix} 5 & 0 & 0 \\ 0 & 5 & 0 \\ 0 & 0 & 5 \end{bmatrix}$$

(B) आदिश आव्यूह

(II)

$$\begin{bmatrix} 0 & -5 & -3 \\ 5 & 0 & -2 \\ 3 & 2 & 0 \end{bmatrix}$$

(C) विषम-सममित आव्यूह

(III)

$$\begin{bmatrix} 1 & 7 & 2 \\ 7 & 5 & 3 \\ 2 & 3 & 6 \end{bmatrix}$$

(D) सममित आव्यूह

(IV) सममित और विषम दोनों

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

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

Options :

212807129689. 1
 212807129690. 2
 212807129691. 3
 212807129692. 4

Question Number : 944 Question Id : 21280732424 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

A doll making small-scale unit calculates the variable cost of making x number of dolls per day as three times the square of x . The fixed cost of packaging x dolls is ₹ 2800. The marginal cost of producing 120 dolls :

- (1) ₹ 72
- (2) ₹ 720
- (3) ₹ 2872
- (4) ₹ 3520

Options :

212807129693. 1
212807129694. 2
212807129695. 3
212807129696. 4

Question Number : 944 Question Id : 21280732424 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

एक गुड़िया बनाने वाली लघु उद्योग की गणना है कि प्रतिदिन x संख्या की गुड़िया बनाने का चर मूल्य संख्या x के वर्ग का तिगुना है। यदि x गुड़िया को पैकिंग का कुल स्थिर कीमत ₹ 2800 है तो 120 गुड़ियों के उत्पादन की सीमांत लागत है :

- (1) ₹ 72
- (2) ₹ 720
- (3) ₹ 2872
- (4) ₹ 3520

Options :

212807129693. 1
212807129694. 2
212807129695. 3
212807129696. 4

Question Number : 945 Question Id : 21280732425 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The demand function for a certain product is such that $P(x) = 3x^2 - x + 200$, where x is the number of units of the product demanded and $P(x)$ is the price per unit.

Marginal revenue when 10 units are sold is :

- (1) 59
- (2) 780
- (3) 1080
- (4) 4900

Options :

212807129697. 1
212807129698. 2
212807129699. 3
212807129700. 4

Question Number : 945 Question Id : 21280732425 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

एक निश्चित उत्पाद के लिए माँग फलन इस प्रकार है, $P(x) = 3x^2 - x + 200$ जहाँ x उत्पाद के माँग की इकाइयों की संख्या और $P(x)$ मूल्य प्रति इकाई है।

जब 10 इकाइयाँ बेची जाती हैं तो सीमान्त राजस्व है :

- (1) 59
- (2) 780
- (3) 1080
- (4) 4900

Options :

212807129697. 1

212807129698. 2

212807129699. 3

212807129700. 4

Question Number : 946 Question Id : 21280732426 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Maximum slope of the curve $y = -2x^3 + 6x^2 + 5x - 20$ is :

- (1) 9
- (2) 10
- (3) 11
- (4) 12

Options :

212807129701. 1

212807129702. 2

212807129703. 3

212807129704. 4

Question Number : 946 Question Id : 21280732426 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

वक्र $y = -2x^3 + 6x^2 + 5x - 20$ की अधिकतम प्रवणता है :

- (1) 9
- (2) 10
- (3) 11
- (4) 12

Options :

212807129701. 1
212807129702. 2
212807129703. 3
212807129704. 4

Question Number : 947 Question Id : 21280732427 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

An open box with square base is to be made out of a given quantity of cardboard of area p^2 sq. units. The maximum volume of the box is :

(1) $\frac{p^3}{6}$ cubic units

(2) $\frac{p}{6\sqrt{3}}$ cubic units

(3) $\frac{p^2}{6\sqrt{3}}$ cubic units

(4) $\frac{p^3}{6\sqrt{3}}$ cubic units

Options :

212807129705. 1
212807129706. 2
212807129707. 3
212807129708. 4

Question Number : 947 Question Id : 21280732427 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

वर्गाकार आधार वाले खुले बक्से को p^2 वर्ग इकाई वाले गते को काटकर बनाया जाता है। बक्से का अधिकतम आयतन है :

(1) $\frac{p^3}{6}$ घन इकाई

(2) $\frac{p}{6\sqrt{3}}$ घन इकाई

(3) $\frac{p^2}{6\sqrt{3}}$ घन इकाई

(4) $\frac{p^3}{6\sqrt{3}}$ घन इकाई

Options :

212807129705. 1
212807129706. 2
212807129707. 3
212807129708. 4

Question Number : 948 Question Id : 21280732428 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Which of the following can be the probability distribution of a random variable ?

(1)

X	1	2	3
P(X)	-0.5	0.5	0.1

(2)

X	1	2	3	4	5
P(X)	0.1	0.4	0.05	-0.2	0.2

(3)

X	1	2	3	5
P(X)	0.2	0.3	0.2	0.2

(4)

X	0	1	2
P(X)	0.4	0.2	0.4

Options :

212807129709. 1
212807129710. 2
212807129711. 3
212807129712. 4

Question Number : 948 Question Id : 21280732428 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

निम्नलिखित में से कौनसी एक यादृच्छिक चर का प्रायिकता बंटन हो सकता है?

(1)

X	1	2	3
P(X)	-0.5	0.5	0.1

(2)

X	1	2	3	4	5
P(X)	0.1	0.4	0.05	-0.2	0.2

(3)

X	1	2	3	5
P(X)	0.2	0.3	0.2	0.2

(4)

X	0	1	2
P(X)	0.4	0.2	0.4

Options :

212807129709. 1
212807129710. 2
212807129711. 3
212807129712. 4

Question Number : 949 Question Id : 21280732429 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The probability distribution of a discrete random variable X is given below :

X	2	3	4	5
P(X)	5/K	7/K	9/K	11/K

, then the value of K is :

- (1) 8
(2) 16
(3) 32
(4) 48

Options :

212807129713. 1
212807129714. 2
212807129715. 3
212807129716. 4

Question Number : 949 Question Id : 21280732429 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

किसी असंतत यादृच्छिक चर X का प्रायिकता बंटन नीचे दिया गया है :

X	2	3	4	5
$P(X)$	$5/K$	$7/K$	$9/K$	$11/K$

, तब K का मान है :

- (1) 8
- (2) 16
- (3) 32
- (4) 48

Options :

- 212807129713. 1
- 212807129714. 2
- 212807129715. 3
- 212807129716. 4

Question Number : 950 Question Id : 21280732430 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The mean and variance of a Binomial distribution are 4 and $\frac{4}{3}$ respectively, then the value of $P(X \geq 1)$ is :

- (1) $\frac{80}{81}$
- (2) $\frac{63}{64}$
- (3) $\frac{728}{729}$
- (4) $\frac{665}{729}$

Options :

- 212807129717. 1
- 212807129718. 2
- 212807129719. 3
- 212807129720. 4

Question Number : 950 Question Id : 21280732430 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

किसी द्विपद बंटन के माध्य और प्रसरण क्रमशः 4 और $\frac{4}{3}$ हैं, तो $P(X \geq 1)$ का मान है :

(1) $\frac{80}{81}$

(2) $\frac{63}{64}$

(3) $\frac{728}{729}$

(4) $\frac{665}{729}$

Options :

212807129717. 1

212807129718. 2

212807129719. 3

212807129720. 4

Question Number : 951 Question Id : 21280732431 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

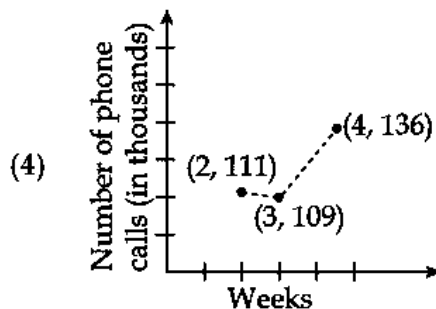
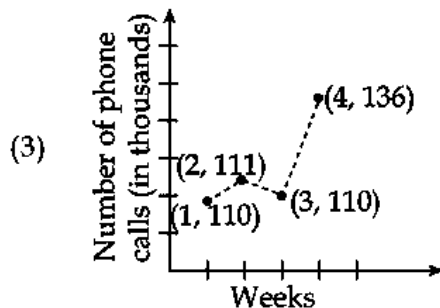
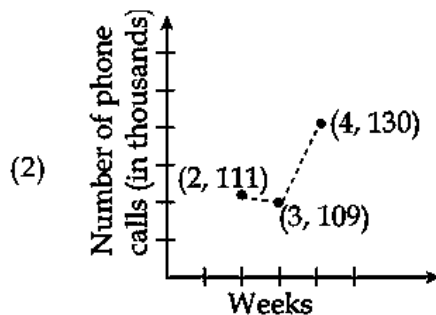
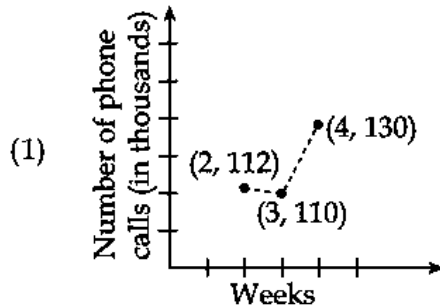
Question Key Details :

Key	Value
Comprehension	MCQ3

The number of phone calls (in thousands) are made by a telephone company for five weeks as given below :

Week	1	2	3	4	5
No. of telephone calls	110	130	93	104	211

Taking a period of moving averages as 3 weeks, the graph of moving averages can be depicted directly as :



Options :

- 212807129721. 1
- 212807129722. 2
- 212807129723. 3
- 212807129724. 4

Question Number : 951 Question Id : 21280732431 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

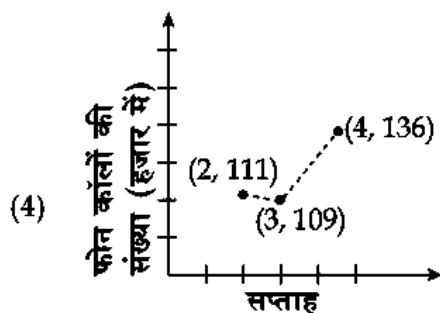
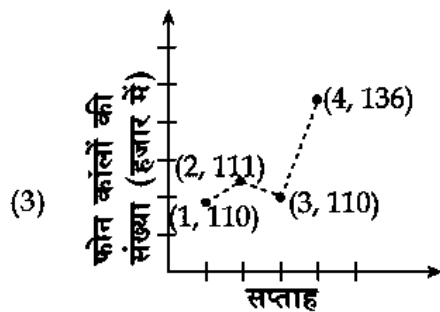
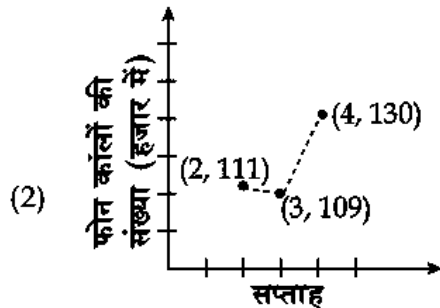
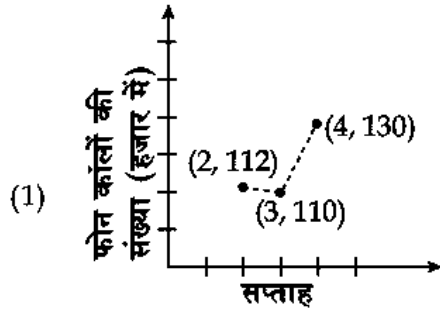
Question Key Details :

Key	Value
Comprehension	MCQ3

किसी टेलीफोन कम्पनी द्वारा पाँच सप्ताह में की गई फोन कॉलों की संख्या (हजार में) निम्न प्रकार दी गई है।

Week	1	2	3	4	5
No. of telephone calls	110	130	93	104	211

चल औसत की अवधि 3 सप्ताह लेने पर चल औसत को ग्राफ द्वारा प्रत्यक्षतः दर्शाया जा सकता है :



Options :

- 212807129721. 1
- 212807129722. 2
- 212807129723. 3
- 212807129724. 4

Question Number : 952 Question Id : 21280732432 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Which index number is used to compare cost of living at two different cities ?

- (1) Value index
- (2) Volume index
- (3) Weighted index
- (4) Consumer price index

Options :

212807129725. 1
212807129726. 2
212807129727. 3
212807129728. 4

Question Number : 952 Question Id : 21280732432 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

दो विभिन्न शहरों में रहने की तुलना के लिए कौनसा जीवनयापन मूल्य सूचकांक प्रयुक्त होता है ?

- (1) मूल्य सूचकांक
- (2) प्रबलता सूचकांक
- (3) भारित सूचकांक
- (4) उपभोक्ता मूल्य सूचकांक

Options :

212807129725. 1
212807129726. 2
212807129727. 3
212807129728. 4

Question Number : 953 Question Id : 21280732433 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The price relation for year 2020 with reference to year 2010 is 117. Correct interpretation of the given information is :

- (1) Prices increased by 17% in year 2010
- (2) Prices increased by 17% in year 2020
- (3) Prices increased by 117% in year 2010
- (4) Prices increased by 117% in year 2020

Options :

212807129729. 1
212807129730. 2
212807129731. 3
212807129732. 4

Question Number : 953 Question Id : 21280732433 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

आधार वर्ष 2010 के सम्बन्ध में वर्ष 2020 के लिए मूल्य सम्बन्ध 117 है। दी गई सूचना का सही प्रस्तुतीकरण है :

- (1) वर्ष 2010 में कीमतें 17% बढ़ गईं
- (2) वर्ष 2020 में कीमतें 17% बढ़ गईं
- (3) वर्ष 2010 में कीमतें 117% बढ़ गईं
- (4) वर्ष 2020 में कीमतें 117% बढ़ गईं

Options :

212807129729. 1
212807129730. 2
212807129731. 3
212807129732. 4

Question Number : 954 Question Id : 21280732434 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Match List - I with List - II.

List - I

List - II

- | | |
|---------------------|---------------------------|
| (A) t-distribution | (I) sample size ≥ 30 |
| (B) Sample mean | (II) \bar{X} |
| (C) Population mean | (III) degree of freedom |
| (D) Z-distribution | (IV) μ |

Choose the correct answer from the options given below :

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

Options :

212807129733. 1
212807129734. 2
212807129735. 3
212807129736. 4

Question Number : 954 Question Id : 21280732434 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

सूची-I से सूची-II का मिलान कीजिए :

सूची-I	सूची-II
(A) t-बंटन	(I) प्रतिदर्श आमाप ≥ 30
(B) प्रतिदर्श माध्य	(II) \bar{X}
(C) समष्टि माध्य	(III) स्वातन्त्र्य कोटि
(D) Z-बंटन	(IV) μ

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

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

Options :

212807129733. 1

212807129734. 2

212807129735. 3

212807129736. 4

Question Number : 955 Question Id : 21280732435 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The least value of positive integer m for which $361 = 1 \pmod{m}$ is Not True, is :

- (1) $m = 7$
- (2) $m = 10$
- (3) $m = 11$
- (4) $m = 8$

Options :

212807129737. 1

212807129738. 2

212807129739. 3

212807129740. 4

Question Number : 955 Question Id : 21280732435 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

घनात्मक पूर्णांक m का वह न्यूनतम मान, यदि $361 = 1 \pmod{m}$ सही नहीं है _____ ।

- (1) $m = 7$
- (2) $m = 10$
- (3) $m = 11$
- (4) $m = 8$

Options :

212807129737. 1

212807129738. 2
212807129739. 3
212807129740. 4

Question Number : 956 Question Id : 21280732436 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The trend line for the sales (in lakhs) is given by $y_c = 84 + 12(x - 2017)$. The estimated sale for the year 2024 is :

- (1) ₹ 84 lakh
- (2) ₹ 96 lakh
- (3) ₹ 156 lakh
- (4) ₹ 168 lakh

Options :

212807129741. 1
212807129742. 2
212807129743. 3
212807129744. 4

Question Number : 956 Question Id : 21280732436 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

बिक्री (लाखों में) के लिए उपनति रेखा $y_c = 84 + 12(x - 2017)$ दी गई है। वर्ष 2024 के लिए अनुमानित बिक्री है :

- (1) ₹ 84 लाख
- (2) ₹ 96 लाख
- (3) ₹ 156 लाख
- (4) ₹ 168 लाख

Options :

212807129741. 1
212807129742. 2
212807129743. 3
212807129744. 4

Question Number : 957 Question Id : 21280732437 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

If the objective function for an LPP is $z = 3x - 4y$ and corner points for bounded feasible region are (5, 0) (6, 5) and (4, 10), then :

- (A) maximum value of z is 2
- (B) minimum value of z is 2
- (C) maximum value of z is at (5, 0)
- (D) no maximum value of z
- (E) maximum value of z is 15

Choose the correct answer from the options given below :

- (1) (B) and (C) Only
- (2) (A) and (B) Only
- (3) (C) and (D) Only
- (4) (C) and (E) Only

Options :

- 212807129745. 1
- 212807129746. 2
- 212807129747. 3
- 212807129748. 4

Question Number : 957 Question Id : 21280732437 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

किसी LPP के लिए उद्देश्य फलन $z = 3x - 4y$ है और परिवद्ध सुसंगत क्षेत्र के कोनीय बिन्दु (5, 0) (6, 5) और (4, 10) हैं तो :

- (A) z का अधिकतम मान 2 हैं
- (B) z का न्यूनतम मान 2 हैं
- (C) (5, 0) पर z का अधिकतम मान है
- (D) z का कोई अधिकतम मान नहीं है
- (E) z का अधिकतम मान 15 है

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (B) और (C)
- (2) केवल (A) और (B)
- (3) केवल (C) और (D)
- (4) केवल (C) और (E)

Options :

- 212807129745. 1
- 212807129746. 2
- 212807129747. 3
- 212807129748. 4

Question Number : 958 Question Id : 21280732438 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Subodh took a loan of ₹ 10,00,000 at 14% annual interest rate for 8 years. His equated monthly instalment under flat rate system is :

- (1) ₹ 20833.33
- (2) ₹ 22083.33
- (3) ₹ 17500
- (4) ₹ 23125

Options :

212807129749. 1
212807129750. 2
212807129751. 3
212807129752. 4

Question Number : 958 Question Id : 21280732438 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

सुबोध ने ₹ 10,00,000 का ऋण 14% वार्षिक ब्याज दर से 8 वर्ष के लिए लिया। सपाट दर विधि से मासिक किश्त है :

- (1) ₹ 20833.33
- (2) ₹ 22083.33
- (3) ₹ 17500
- (4) ₹ 23125

Options :

212807129749. 1
212807129750. 2
212807129751. 3
212807129752. 4

Question Number : 959 Question Id : 21280732439 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

At what rate of interest will the present value of a perpetuity of ₹ 1000, payable at the end of every quarter be ₹ 20000 :

- (1) 10% per annum
- (2) 20% per annum
- (3) 3% per quarter
- (4) 10% per quarter

Options :

212807129753. 1
212807129754. 2
212807129755. 3
212807129756. 4

Question Number : 959 Question Id : 21280732439 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

किस ब्याज दर से ₹ 1000 मूल्य के शाश्वत, जो प्रत्येक तिमाही के अन्त में देय है, का वर्तमान मूल्य ₹ 20000 हो जाएगा ?

- (1) 10% प्रति वर्ष
- (2) 20% प्रति वर्ष
- (3) 3% प्रति तिमाही
- (4) 10% प्रति तिमाही

Options :

212807129753. 1

212807129754. 2

212807129755. 3

212807129756. 4

Question Number : 960 Question Id : 21280732440 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The rate of interest used to discount the bond's cash flow is known as :

- (1) yield to maturity
- (2) coupon rate
- (3) face value
- (4) coupon value

Options :

212807129757. 1

212807129758. 2

212807129759. 3

212807129760. 4

Question Number : 960 Question Id : 21280732440 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

किसी बॉण्ड के नकद प्रवाह में छूट देने के लिए जिस ब्याज दर का प्रयोग होता है, कहलाता है :

- (1) परिपक्वता पर प्राप्ति
- (2) कूपन दर
- (3) अंकित मूल्य
- (4) कूपन मूल्य

Options :

212807129757. 1

212807129758. 2

212807129759. 3
212807129760. 4

Question Number : 961 Question Id : 21280732441 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

Mr. Dileep Rao has set up a sinking fund so that he can accumulate ₹ 10,00,000 in 10 years for his children's higher education. How much amount should Dileep Rao deposit at the beginning of each year to accumulate this amount at the end of 10 years. If the interest rate is 12% compounded annually ? Given that $(1.12)^{11} = 3.477$ (Rounded off to the nearest paise)

- (1) ₹ 50000
- (2) ₹ 50900
- (3) ₹ 51211.10
- (4) ₹ 50912.18

Options :

212807129761. 1
212807129762. 2
212807129763. 3
212807129764. 4

Question Number : 961 Question Id : 21280732441 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

मि. दिलीप राव ने अपने बच्चे की उच्च शिक्षा के लिए एक शोधन निधि बनाने का निर्णय लिया ताकि वह अगले 10 वर्ष में ₹ 10,00,000 की निधि इकट्ठा कर सकें। दिलीप राव को प्रत्येक वर्ष के आरंभ में कितना धन जमा करना चाहिए कि 10 वर्ष के अंत में इच्छित राशि एकत्रित हो जाए। यदि चक्रवृद्धि ब्याज दर 12% वार्षिक हो। दिया है $(1.12)^{11} = 3.477$ (सन्निकट पैसे में)

- (1) ₹ 50000
- (2) ₹ 50900
- (3) ₹ 51211.10
- (4) ₹ 50912.18

Options :

212807129761. 1
212807129762. 2
212807129763. 3
212807129764. 4

Question Number : 962 Question Id : 21280732442 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The investment in buying 525 shares of ₹ 100 each at ₹ 12 premium is :

- (1) ₹ 54800
- (2) ₹ 56800
- (3) ₹ 58000
- (4) ₹ 58800

Options :

- 212807129765. 1
- 212807129766. 2
- 212807129767. 3
- 212807129768. 4

Question Number : 962 Question Id : 21280732442 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

₹ 12 अधिमूल्य वाले ₹ 100 कीमत के 525 शेयर क्रय करने के लिए निवेश राशि है :

- (1) ₹ 54800
- (2) ₹ 56800
- (3) ₹ 58000
- (4) ₹ 58800

Options :

- 212807129765. 1
- 212807129766. 2
- 212807129767. 3
- 212807129768. 4

Question Number : 963 Question Id : 21280732443 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The point estimate for the mean number of sales of cars for the following data

103, 140, 92, 115, 110, is :

- (1) 111
- (2) 112
- (3) 115
- (4) 114

Options :

- 212807129769. 1
- 212807129770. 2
- 212807129771. 3
- 212807129772. 4

Question Number : 963 Question Id : 21280732443 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
-----	-------

कारों की बिक्री के लिए अधोलिखित आँकड़ों 103, 140, 92, 115, 110, से मध्यमान संख्या का बिन्दु आकलन है :

- (1) 111
- (2) 112
- (3) 115
- (4) 114

Options :

- 212807129769. 1
- 212807129770. 2
- 212807129771. 3
- 212807129772. 4

Question Number : 964 Question Id : 21280732444 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

If objective function for LPP is $z = 5x + 7y$ and corner points of feasible region are $(0, 0)$ $(7, 0)$ $(3, 4)$ and $(0, 2)$ then maximum value of z occurs at :

- (A) $(0, 0)$
- (B) $(7, 0)$
- (C) $(3, 4)$
- (D) $(0, 2)$
- (E) $(4, 3)$

Choose the correct answer from the options given below :

- (1) (A) and (E) Only
- (2) (C) Only
- (3) (C) and (B) Only
- (4) (C), (D), (B) Only

Options :

- 212807129773. 1
- 212807129774. 2
- 212807129775. 3
- 212807129776. 4

Question Number : 964 Question Id : 21280732444 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

यदि किसी LPP के लिए उद्देश्य फलन $z = 5x + 7y$ है और कोनीय बिन्दु $(0, 0)$ $(7, 0)$ $(3, 4)$ और $(0, 2)$ हैं तो z का अधिकतम मान _____ पर स्थित है।

- (A) $(0, 0)$
- (B) $(7, 0)$
- (C) $(3, 4)$
- (D) $(0, 2)$
- (E) $(4, 3)$

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A) और (E)
- (2) केवल (C)
- (3) केवल (C) और (B)
- (4) केवल (C), (D), (B)

Options :

- 212807129773. 1
- 212807129774. 2
- 212807129775. 3
- 212807129776. 4

Question Number : 965 Question Id : 21280732445 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

The maximum value of $z = 2.5x + y$ subject to the constraints $x + 3y \leq 12$, $3x + y \leq 12$, $x, y \geq 0$, is :

- (1) 4
- (2) 8.5
- (3) 10.5
- (4) 10

Options :

- 212807129777. 1
- 212807129778. 2
- 212807129779. 3
- 212807129780. 4

Question Number : 965 Question Id : 21280732445 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ3

व्यवरोधों $x + 3y \leq 12$, $3x + y \leq 12$, $x, y \geq 0$, के अन्तर्गत $z = 2.5x + y$ का अधिकतम मान है :

- (1) 4
- (2) 8.5
- (3) 10.5
- (4) 10

Options :

212807129777. 1
 212807129778. 2
 212807129779. 3
 212807129780. 4

Sub-Section Number : 2
Sub-Section Id : 2128072543
Question Shuffling Allowed : No
Is Section Default? : null

Question Number : 966 Question Id : 21280732446 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

The effective rate which is equivalent to stated rate of 6% compounded semiannually is :

- (1) 6.09%
 (2) 1.03%
 (3) 4.09%
 (4) 5.09%

Options :

212807129781. 1
 212807129782. 2
 212807129783. 3
 212807129784. 4

Question Number : 966 Question Id : 21280732446 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

घोषित दर 6% चक्रवृद्धीय अर्द्धवार्षिक के समतुल्य प्रभावी दर है :

- (1) 6.09%
 (2) 1.03%
 (3) 4.09%
 (4) 5.09%

Options :

212807129781. 1
 212807129782. 2
 212807129783. 3
 212807129784. 4

Question Number : 967 Question Id : 21280732447 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

The index number of the base year is :

- (1) 10
- (2) 100
- (3) 200
- (4) 300

Options :

- 212807129785. 1
- 212807129786. 2
- 212807129787. 3
- 212807129788. 4

Question Number : 967 Question Id : 21280732447 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

आधार वर्ष के लिए सूचकांक है :

- (1) 10
- (2) 100
- (3) 200
- (4) 300

Options :

- 212807129785. 1
- 212807129786. 2
- 212807129787. 3
- 212807129788. 4

Question Number : 968 Question Id : 21280732448 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

Ram and Shyam are playing a game by throwing a die alternatively till one of them gets a '1' and wins the game. The probabilities of winning by Ram and Shyam respectively if Ram starts first, is :

- (1) $\frac{6}{11}, \frac{5}{11}$
- (2) $\frac{5}{11}, \frac{6}{11}$
- (3) $\frac{3}{11}, \frac{8}{11}$
- (4) $\frac{8}{11}, \frac{3}{11}$

Options :

- 212807129789. 1
- 212807129790. 2
- 212807129791. 3

Question Number : 968 Question Id : 21280732448 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

राम और श्याम बारी-बारी से पासे को उछाल रहे हैं जब तक कि उनमें से एक का '1' ना आ जाय और खेल जीत ले। यदि राम खेल को शुरू करे तो राम और श्याम के जीतने की प्रायिकता क्रमशः होगी :

(1) $\frac{6}{11}, \frac{5}{11}$

(2) $\frac{5}{11}, \frac{6}{11}$

(3) $\frac{3}{11}, \frac{8}{11}$

(4) $\frac{8}{11}, \frac{3}{11}$

Options :

212807129789. 1

212807129790. 2

212807129791. 3

212807129792. 4

Question Number : 969 Question Id : 21280732449 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

The volume of a spherical balloon is increasing at the rate of $6 \text{ cm}^3/\text{sec}$. The rate of change of its surface area when its radius 2 cm is :

(1) $3 \text{ cm}^2/\text{sec}$

(2) $\frac{3}{2} \text{ cm}^2/\text{sec}$

(3) $6 \text{ cm}^2/\text{sec}$

(4) $9 \text{ cm}^2/\text{sec}$

Options :

212807129793. 1

212807129794. 2

212807129795. 3

212807129796. 4

Question Number : 969 Question Id : 21280732449 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

एक गोलीय गुब्बारे का आयतन $6 \text{ सेमी}^3/\text{सै.}$ की दर से बढ़ रहा है। इसके पृष्ठीय क्षेत्रफल के परिवर्तन की दर, यदि इसकी त्रिज्या 2 सेमी है, है :

- (1) $3 \text{ सेमी}^2/\text{सै.}$
- (2) $\frac{3}{2} \text{ सेमी}^2/\text{सै.}$
- (3) $6 \text{ सेमी}^2/\text{सै.}$
- (4) $9 \text{ सेमी}^2/\text{सै.}$

Options :

212807129793. 1
212807129794. 2
212807129795. 3
212807129796. 4

Question Number : 970 Question Id : 21280732450 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

In a 500 m race, the ratio of speeds of two participants A and B is 4 : 5 respectively. If A has a start of 180 m, then the distance by which A wins is :

- (1) 50 m
- (2) 140 m
- (3) 120 m
- (4) 100 m

Options :

212807129797. 1
212807129798. 2
212807129799. 3
212807129800. 4

Question Number : 970 Question Id : 21280732450 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	Comp2

500 मीटर की एक दौड़ में, दो संभागी A और B की चालों का अनुपात क्रमशः 4 : 5 है। यदि A 180 मीटर बिन्दु से दौड़ शुरू करता है तो A कितनी दूरी से जीतता है ?

- (1) 50 मीटर
- (2) 140 मीटर
- (3) 120 मीटर
- (4) 100 मीटर

Options :

212807129797. 1
212807129798. 2
212807129799. 3

Political Science

Group Number :	25
Group Id :	212807749
Group Maximum Duration :	45
Group Minimum Duration :	45
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	200
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Political Science

Section Id :	212807883
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	40
Section Marks :	200
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	2128072544
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 971 Question Id : 21280732501 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ

How many percent of the eligible voters of the first general election held from October 1951 to February 1952, were literate ?

- (1) 100%
- (2) 15%
- (3) 25%
- (4) 50%

Options :

- 212807130001. 1
- 212807130002. 2
- 212807130003. 3
- 212807130004. 4

Question Number : 971 Question Id : 21280732501 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Wrong Marks : 1

Question Key Details :

Key	Value
Comprehension	MCQ