

National Testing Agency

Question Paper Name :	Computer Science and Information Technology Eng 07th June 2023 Shift 2
Subject Name :	Computer Science and Information Technology Eng
Creation Date :	2023-06-07 23:01:35
Duration :	120
Total Marks :	400
Display Marks:	Yes

Computer Science and Information Technology

Group Number :	1
Group Id :	68634077
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	400
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Part A

Section Id :	686340153
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	21
Number of Questions to be attempted :	21
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	686340245
Question Shuffling Allowed :	No
Is Section Default? :	null

**Question Id : 6863407689 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group
Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time :
N.A Minimum Instruction Time : 0**

Question Numbers : (1 to 5)

Question Label : Comprehension

Sutapa Chakraborty

Rudyard Kipling honoured motherhood with these words: "God could not be everywhere and, therefore, he made mothers." This is similar to what Sarada Devi, referred to as Holy Mother by her disciples, would say quoting her husband, Ramakrishana Paramhansa: "He had the attitude of a mother towards all creations and he has left me behind to demonstrate this motherhood of God." That, she said, was her purpose in life.

A mother's role is multifaceted. She is also her child's first teacher. And Sarada Devi fully imbibed and imparted the philosophy of 'Vigyan Vedanta', demonstrating how all those teachings could be applied to make our own lives blessed.

In her own way, she taught "as many faiths, so many paths", Brahmn, according to her, was in all things and in all creatures. Though the realised souls have imparted different teachings, and they don't say the same thing, however, since there are many paths leading to the same goal, all of their teachings are true. She gave a unique analogy for this. Imagine a tree with birds of different colours and plumage sitting and singing a wide variety of notes in varying octaves. We do not say that any one particular bird's chirp is the chirp, and the rest are not. She would say that founders of all religions are realised souls and they have witnessed different aspects of God on the basis of their own experience, and they are all correct as they have indeed known the truth. They are wrong in generalising it, though. Actually, they are only referring to different forms and aspects of one and the same infinite, divine reality.

Demonstrating harmony of religions in her day-to-day life and a mother's unconditional love for all, Sri Ma would say that the Muslim labourer called Amjad working for her was as much her son as was Sarat, Swami Saradananda, her personal attendant. When Sister Nivedita, Swami Vivekananda's disciple, came to visit her, Ma Sarada embraced and accepted her as her own daughter. She maintained that the infinite divine reality is nirgun formless, in one aspect, and also sagun, with form. Once, when asked by a monk, "Are you really the mother of all? Even the birds, insects and beasts?" She said, "Yes". At her home in Jayrambati, West Bengal, when a monk once hit a cat, the Holy Mother was deeply hurt and said, "Don't beat it. Feed it, so it will not steal food. I live in that cat."

Pray for desirelessness, was her advice. If one can entirely give up all wordly desires, they can get a vision of God right away, she believed. Her final and most profound teaching was that if you want peace of mind, do not find faults with others. Rather, learn to see your own faults. "Learn to accept the whole world as your own. No one is a stranger, my child," she would say.

Sub questions

Question Number : 1 Question Id : 6863407690 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 : 4 Wrong Marks : 1

"God could not be every where and, therefore he made mother" who said this.

1. Sarada Devi
2. Ramakrishna Paramahansa
3. Rudyard Kipling
4. Sutapa Chakraborty

Options :

68634030401. 1
68634030402. 2

68634030403. 3

68634030404. 4

Question Number : 2 Question Id : 6863407691 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 : 4 Wrong Marks : 1

'Vigyan Vedanta' philosophy could be applied to make our own lives blessed. Sarada Devi fully imbibed and imparted this philosophy.

Here imbibed means _____.

1. Kill ideas or Knowledge
2. Literary absorb (ideas or knowledge)
3. Drink (alcohol)
4. Absorb water

Options :

68634030405. 1

68634030406. 2

68634030407. 3

68634030408. 4

Question Number : 3 Question Id : 6863407692 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 : 4 Wrong Marks : 1

Different aspects of God means:

- A. Different nature of God
- B. Different character of God
- C. Different feature of God
- D. Different identity of God

Choose the most appropriate answer:

1. A, B only
2. A, B, C, D only
3. A, B, C only
4. D only

Options :

68634030409. 1

68634030410. 2

68634030411. 3

68634030412. 4

Question Number : 4 Question Id : 6863407693 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 : 4 Wrong Marks : 1

"Plumage" means:

1. A singing bird
2. A bird of unique colour
3. A bird's feathers collectively
4. Number of birds chirping together

Options :

- 68634030413. 1
- 68634030414. 2
- 68634030415. 3
- 68634030416. 4

Question Number : 5 Question Id : 6863407694 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 : 4 Wrong Marks : 1

Who were described as Sri Ma Sarada Devi's children in the passage. The list must include all the names described:

1. Amjad, Sarat, Swami Vivekananda
2. Sarat, Swami Vivekananda
3. Nivedita, Amjad, Sarat
4. Nivedita, Swami Saradananda, Amjad, Sarat

Options :

- 68634030417. 1
- 68634030418. 2
- 68634030419. 3
- 68634030420. 4

Question Id : 6863407689 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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Sutapa Chakraborty

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A mother's role is multifaceted. She is also her child's first teacher. And Sarada Devi fully imbibed and imparted the philosophy of 'Vigyan Vedanta', demonstrating how all those teachings could be applied to make our own lives blessed.

In her own way, she taught "as many faiths, so many paths", Brahmn, according to her, was in all things and in all creatures. Though the realised souls have imparted different teachings, and they don't say the same thing, however, since there are many paths leading to the same goal, all of their teachings are true. She gave a unique analogy for this. Imagine a tree with birds of different colours and plumage sitting and singing a wide variety of notes in varying octaves. We do not say that any one particular bird's chirp is the chirp, and the rest are not. She would say that founders of all religions are realised souls and they have witnessed different aspects of God on the basis of their own experience, and they are all correct as they have indeed known the truth. They are wrong in generalising it, though. Actually, they are only referring to different forms and aspects of one and the same infinite, divine reality.

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Sub questions

Question Number : 1 Question Id : 6863407690 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 : 4 Wrong Marks : 1

"God could not be every where and, therefore he made mother" who said this.

1. Sarada Devi
2. Ramakrishna Paramahansa
3. Rudyard Kipling
4. Sutapa Chakraborty

Options :

- 68634030401. 1
- 68634030402. 2

68634030403. 3

68634030404. 4

Question Number : 2 Question Id : 6863407691 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 : 4 Wrong Marks : 1

'Vigyan Vedanta' philosophy could be applied to make our own lives blessed. Sarada Devi fully imbibed and imparted this philosophy.

Here imbibed means _____.

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Options :

68634030405. 1
68634030406. 2
68634030407. 3
68634030408. 4

Question Number : 3 Question Id : 6863407692 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 : 4 Wrong Marks : 1

Different aspects of God means:

- A. Different nature of God
- B. Different character of God
- C. Different feature of God
- D. Different identity of God

Choose the most appropriate answer:

1. A, B only
2. A, B, C, D only
3. A, B, C only
4. D only

Options :

68634030409. 1
68634030410. 2
68634030411. 3
68634030412. 4

Question Number : 4 Question Id : 6863407693 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 : 4 Wrong Marks : 1

"Plumage" means:

1. A singing bird
2. A bird of unique colour
3. A bird's feathers collectively
4. Number of birds chirping together

Options :

- 68634030413. 1
- 68634030414. 2
- 68634030415. 3
- 68634030416. 4

Question Number : 5 Question Id : 6863407694 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 : 4 Wrong Marks : 1

Who were described as Sri Ma Sarada Devi's children in the passage. The list must include all the names described:

1. Amjad, Sarat, Swami Vivekananda
2. Sarat, Swami Vivekananda
3. Nivedita, Amjad, Sarat
4. Nivedita, Swami Saradananda, Amjad, Sarat

Options :

- 68634030417. 1
- 68634030418. 2
- 68634030419. 3
- 68634030420. 4

Sub-Section Number :

2

Sub-Section Id :

686340246

Question Shuffling Allowed :

Yes

Is Section Default? :

null

Question Number : 6 Question Id : 6863407695 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 : 4 Wrong Marks : 1

Out of the following options select the word that is correctly spelt:

1. CONVELESENSE
2. CONVALASENCE
3. CONVALESENSE
4. CONVALESCENCE

Options :

- 68634030421. 1
- 68634030422. 2
- 68634030423. 3
- 68634030424. 4

Question Number : 6 Question Id : 6863407695 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 : 4 Wrong Marks : 1

Out of the following options select the word that is correctly spelt:

1. CONVELESENSE
2. CONVALASENCE
3. CONVALESENSE
4. CONVALESCENCE

Options :

- 68634030421. 1
- 68634030422. 2
- 68634030423. 3
- 68634030424. 4

Question Number : 7 Question Id : 6863407696 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 : 4 Wrong Marks : 1

Despite the family's insistence that she should get married, She has set her face against the idea. The underlined idiom implies that:

1. She got out of the difficulty on her own.
2. She opposed the idea with determination.
3. She pitched herself against her parents.
4. She refused to confront and convince her parents

Options :

- 68634030425. 1

68634030426. 2
68634030427. 3
68634030428. 4

Question Number : 7 Question Id : 6863407696 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 : 4 Wrong Marks : 1

Despite the family's insistence that she should get married, She has set her face against the idea. The underlined idiom implies that:

1. She got out of the difficulty on her own.
2. She opposed the idea with determination.
3. She pitched herself against her parents.
4. She refused to confront and convince her parents

Options :

68634030425. 1
68634030426. 2
68634030427. 3
68634030428. 4

Question Number : 8 Question Id : 6863407697 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 : 4 Wrong Marks : 1

Choose a synonym of the underlined word.

Rohit's lugubrious eulogy at the funeral of his dog eventually made everyone start gigling.

1. morass
2. Sonorant
3. meloncholy
4. somber

Options :

68634030429. 1
68634030430. 2
68634030431. 3
68634030432. 4

Question Number : 8 Question Id : 6863407697 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 : 4 Wrong Marks : 1

Choose a synonym of the underlined word.

Rohit's lugubrious eulogy at the funeral of his dog eventually made everyone start gigling.

1. morass
2. Sonorant
3. meloncholy
4. somber

Options :

- 68634030429. 1
- 68634030430. 2
- 68634030431. 3
- 68634030432. 4

Question Number : 9 Question Id : 6863407698 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 : 4 Wrong Marks : 1

Choose a word opposite to the meaning of the underlined word.

History is replete with deeds of cruel and capricious kings.

1. erratic
2. steady
3. acquise
4. humble

Options :

- 68634030433. 1
- 68634030434. 2
- 68634030435. 3
- 68634030436. 4

Question Number : 9 Question Id : 6863407698 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 : 4 Wrong Marks : 1

Choose a word opposite to the meaning of the underlined word.

History is replete with deeds of cruel and capricious kings.

1. erratic
2. steady
3. acquise
4. humble

Options :

- 68634030433. 1
- 68634030434. 2
- 68634030435. 3
- 68634030436. 4

Question Number : 10 Question Id : 6863407699 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 : 4 Wrong Marks : 1

A severe deserved punishment

1. Reformation
2. Retribution
3. Revisionism
4. Retreat

Options :

- 68634030437. 1
- 68634030438. 2
- 68634030439. 3
- 68634030440. 4

Question Number : 10 Question Id : 6863407699 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 : 4 Wrong Marks : 1

A severe deserved punishment

1. Reformation
2. Retribution
3. Revisionism
4. Retreat

Options :

- 68634030437. 1

68634030438. 2
68634030439. 3
68634030440. 4

**Question Number : 11 Question Id : 6863407700 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 : 4 Wrong Marks : 1**

A sum of money doubles itself on simple interest in 10 years. Find the rate of interest per annum.

1. 10%
2. 12%
3. 12.5%
4. 8%

Options :

68634030441. 1
68634030442. 2
68634030443. 3
68634030444. 4

**Question Number : 11 Question Id : 6863407700 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 : 4 Wrong Marks : 1**

A sum of money doubles itself on simple interest in 10 years. Find the rate of interest per annum.

1. 10%
2. 12%
3. 12.5%
4. 8%

Options :

68634030441. 1
68634030442. 2
68634030443. 3
68634030444. 4

**Question Number : 12 Question Id : 6863407701 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 : 4 Wrong Marks : 1**

An athlete takes as much time in running 200 m as a car takes in covering 500m. The distance covered by the athlete during the time the car covers 2 km is :

1. 500 m
2. 600 m
3. 750 m
4. 800 m

Options :

68634030445. 1
68634030446. 2
68634030447. 3
68634030448. 4

Question Number : 12 Question Id : 6863407701 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 : 4 Wrong Marks : 1

An athlete takes as much time in running 200 m as a car takes in covering 500m. The distance covered by the athlete during the time the car covers 2 km is :

1. 500 m
2. 600 m
3. 750 m
4. 800 m

Options :

68634030445. 1
68634030446. 2
68634030447. 3
68634030448. 4

Question Number : 13 Question Id : 6863407702 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 : 4 Wrong Marks : 1

If $\cot^2 45^\circ - \sin^2 45^\circ = K \sin^2 30^\circ \times \tan^2 45^\circ \times \sec^2 45^\circ$, then the value of K is

1. 0
2. 1
3. 1.5
4. 2

Options :

68634030449. 1
68634030450. 2
68634030451. 3
68634030452. 4

**Question Number : 13 Question Id : 6863407702 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 : 4 Wrong Marks : 1**

If $\cot^2 45^\circ - \sin^2 45^\circ = K \sin^2 30^\circ \times \tan^2 45^\circ \times \sec^2 45^\circ$, then the value of K is

- 1. 0
- 2. 1
- 3. 1.5
- 4. 2

Options :

68634030449. 1
68634030450. 2
68634030451. 3
68634030452. 4

**Question Number : 14 Question Id : 6863407703 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 : 4 Wrong Marks : 1**

The area of a rhombus is 120 cm^2 and length of its one diagonal is 24 cm. Find the perimeter of the rhombus (in cm).

- 1. 50
- 2. 52
- 3. 54
- 4. 56

Options :

68634030453. 1
68634030454. 2
68634030455. 3
68634030456. 4

**Question Number : 14 Question Id : 6863407703 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 : 4 Wrong Marks : 1**

The area of a rhombus is 120 cm^2 and length of its one diagonal is 24 cm. Find the perimeter of the rhombus (in cm).

1. 50
2. 52
3. 54
4. 56

Options :

68634030453. 1
68634030454. 2
68634030455. 3
68634030456. 4

Question Number : 15 Question Id : 6863407704 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 : 4 Wrong Marks : 1

The monthly income and expenditure of a person were ₹10,000 and ₹6,000 respectively. Next year, his income increased by 15% and his expenditure increased by 8%. Then the percentage increase in his savings is:

1. 20%
2. 25%
3. 25.5%
4. 52.5%

Options :

68634030457. 1
68634030458. 2
68634030459. 3
68634030460. 4

Question Number : 15 Question Id : 6863407704 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 : 4 Wrong Marks : 1

The monthly income and expenditure of a person were ₹10,000 and ₹6,000 respectively. Next year, his income increased by 15% and his expenditure increased by 8%. Then the percentage increase in his savings is:

1. 20%
2. 25%
3. 25.5%
4. 52.5%

Options :

68634030457. 1
68634030458. 2
68634030459. 3
68634030460. 4

**Question Number : 16 Question Id : 6863407705 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 : 4 Wrong Marks : 1**

Ajay said, "This girl is the wife of the grandson of my mother". Who is Ajay to the girl?

1. Father
2. Father-in-law
3. Cousin
4. Brother

Options :

68634030461. 1
68634030462. 2
68634030463. 3
68634030464. 4

**Question Number : 16 Question Id : 6863407705 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 : 4 Wrong Marks : 1**

Ajay said, "This girl is the wife of the grandson of my mother". Who is Ajay to the girl?

1. Father
2. Father-in-law
3. Cousin
4. Brother

Options :

68634030461. 1
68634030462. 2
68634030463. 3
68634030464. 4

**Question Number : 17 Question Id : 6863407706 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 : 4 Wrong Marks : 1**

Two boys and two girls are playing cards and are seated at North, East, South and West of a table. No boy is facing East. Persons sitting opposite to each other are not of the same sex. One girl is facing South. Which directions are the boys facing?

1. North and West
2. East and North
3. East and West
4. East and South

Options :

- 68634030465. 1
- 68634030466. 2
- 68634030467. 3
- 68634030468. 4

Question Number : 17 Question Id : 6863407706 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 : 4 Wrong Marks : 1

Two boys and two girls are playing cards and are seated at North, East, South and West of a table. No boy is facing East. Persons sitting opposite to each other are not of the same sex. One girl is facing South. Which directions are the boys facing?

1. North and West
2. East and North
3. East and West
4. East and South

Options :

- 68634030465. 1
- 68634030466. 2
- 68634030467. 3
- 68634030468. 4

Question Number : 18 Question Id : 6863407707 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 : 4 Wrong Marks : 1

Given below are two statements:

Statement:

- I. Rabindranath Tagore wrote many poems.
- II. Every poet has aesthetic knowledge.
- III. Aesthetic is a part of axiological study.

Conclusions:

- I. Rabindranath Tagore did different axiological studies.
 - II. He followed the base of logic and ethics.
- 1. If only conclusion I follow
 - 2. If only conclusion II follow
 - 3. If either conclusion I or II follow
 - 4. If neither conclusion I nor II follow

Options :

- 68634030469. 1
- 68634030470. 2
- 68634030471. 3
- 68634030472. 4

Question Number : 18 Question Id : 6863407707 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 : 4 Wrong Marks : 1

Given below are two statements:

Statement:

- I. Rabindranath Tagore wrote many poems.
- II. Every poet has aesthetic knowledge.
- III. Aesthetic is a part of axiological study.

Conclusions:

- I. Rabindranath Tagore did different axiological studies.
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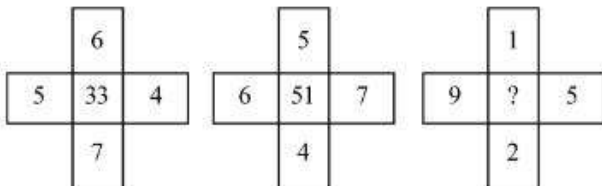
- 1. If only conclusion I follow
- 2. If only conclusion II follow
- 3. If either conclusion I or II follow
- 4. If neither conclusion I nor II follow

Options :

- 68634030469. 1
- 68634030470. 2
- 68634030471. 3
- 68634030472. 4

Question Number : 19 Question Id : 6863407708 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 : 4 Wrong Marks : 1

Find out the missing number:



- 1. 40
- 2. 44
- 3. 46
- 4. 48

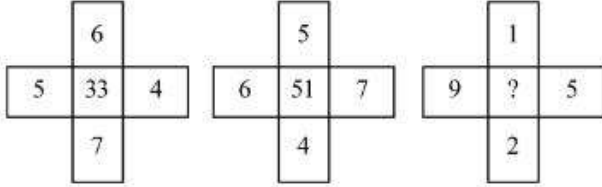
Options :

- 68634030473. 1
- 68634030474. 2
- 68634030475. 3

68634030476. 4

Question Number : 19 Question Id : 6863407708 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 : 4 Wrong Marks : 1

Find out the missing number:



1. 40

2. 44

3. 46

4. 48

Options :

68634030473. 1

68634030474. 2

68634030475. 3

68634030476. 4

Question Number : 20 Question Id : 6863407709 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 : 4 Wrong Marks : 1

Find the missing term in the given number series.

-1, 0, 7, 26, 63, ?, 215, 342

1. 172

2. 142

3. 124

4. 134

Options :

68634030477. 1

68634030478. 2

68634030479. 3

68634030480. 4

Question Number : 20 Question Id : 6863407709 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 : 4 Wrong Marks : 1

Find the missing term in the given number series.

-1, 0, 7, 26, 63, ?, 215, 342

1. 172

2. 142

3. 124

4. 134

Options :

68634030477. 1

68634030478. 2

68634030479. 3

68634030480. 4

Question Number : 21 Question Id : 6863407710 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 : 4 Wrong Marks : 1

Which player has won Gold in Women's Air pistol at the 65th National shooting Championship, 2022?

1. Sanskriti Bana

2. Divya T. S.

3. Manu Bhaker

4. Rhythm Sangwan

Options :

68634030481. 1

68634030482. 2

68634030483. 3

68634030484. 4

Question Number : 21 Question Id : 6863407710 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 : 4 Wrong Marks : 1

Which player has won Gold in Women's Air pistol at the 65th National shooting Championship, 2022?

1. Sanskriti Bana

2. Divya T. S.

3. Manu Bhaker

4. Rhythm Sangwan

Options :

68634030481. 1
68634030482. 2
68634030483. 3
68634030484. 4

Question Number : 22 Question Id : 6863407711 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 : 4 Wrong Marks : 1

Match List I with List II

LIST I (Nobel Prize Awarde from India)		LIST II (Field)	
A.	Kailash Satyarthi	I.	Chemistry
B.	Abhijit Banerjee	II.	Peace
C.	Venkatraman Ramakrishnan	III.	Physics
D.	Subrahmanyam Chandrasekhar	IV.	Economics

Choose the correct answer from the options given below:

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

Options :

68634030485. 1
68634030486. 2
68634030487. 3
68634030488. 4

Question Number : 22 Question Id : 6863407711 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 : 4 Wrong Marks : 1

Match List I with List II

LIST I (Nobel Prize Awarde from India)		LIST II (Field)	
A.	Kailash Satyarthi	I.	Chemistry
B.	Abhijit Banerjee	II.	Peace
C.	Venkatraman Ramakrishnan	III.	Physics
D.	Subrahmanyam Chandrasekhar	IV.	Economics

Choose the correct answer from the options given below:

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

Options :

68634030485. 1
68634030486. 2
68634030487. 3
68634030488. 4

Question Number : 23 Question Id : 6863407712 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 : 4 Wrong Marks : 1

Who has been awarded the first prize in the National MSME Award 2022?

1. Assam
2. Odisha
3. Gujarat
4. Uttar Pradesh

Options :

68634030489. 1
68634030490. 2
68634030491. 3
68634030492. 4

Question Number : 23 Question Id : 6863407712 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 : 4 Wrong Marks : 1

Who has been awarded the first prize in the National MSME Award 2022?

1. Assam
2. Odisha
3. Gujarat
4. Uttar Pradesh

Options :

68634030489. 1
68634030490. 2
68634030491. 3
68634030492. 4

Question Number : 24 Question Id : 6863407713 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 : 4 Wrong Marks : 1

Given below are two statements:

Statement I : When a ray of white light is passed through a prism, it gets splitted into its constituents colours. This phenomenon is called dispersion of light.

Statement II : Rainbow is formed due to dispersion of sunlight by water droplets.

In the light of the above statements, choose the **most appropriate answer** from the options given below:

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

68634030493. 1
68634030494. 2
68634030495. 3
68634030496. 4

Question Number : 24 Question Id : 6863407713 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 : 4 Wrong Marks : 1

Given below are two statements:

Statement I : When a ray of white light is passed through a prism, it gets splitted into its constituents colours. This phenomenon is called dispersion of light.

Statement II : Rainbow is formed due to dispersion of sunlight by water droplets.

In the light of the above statements, choose the **most appropriate answer** from the options given below:

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

- 68634030493. 1
- 68634030494. 2
- 68634030495. 3
- 68634030496. 4

Question Number : 25 Question Id : 6863407714 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 : 4 Wrong Marks : 1

ISRO successfully put three satellites of which country into space orbit with PSLV-C53?

1. USA
2. Singapore
3. Brazil
4. Spain

Options :

- 68634030497. 1
- 68634030498. 2
- 68634030499. 3
- 68634030500. 4

Question Number : 25 Question Id : 6863407714 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 : 4 Wrong Marks : 1

ISRO successfully put three satellites of which country into space orbit with PSLV-C53?

1. USA
2. Singapore
3. Brazil
4. Spain

Options :

- 68634030497. 1
- 68634030498. 2
- 68634030499. 3
- 68634030500. 4

Part B: Computer Science and Information Technology

Section Id :	686340154
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	75
Number of Questions to be attempted :	75
Section Marks :	300
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	686340247
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 26 Question Id : 6863407715 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 : 4 Wrong Marks : 1

Match List I with List II

LIST I		LIST II	
A.	Dog : Rabies :: Mosquito :	I.	Bacteria
B.	Amnesia : Memory :: Paralysis :	II.	Liver
C.	Meningitis : Brain :: Cirrhosis :	III.	Movement
D.	Influenza : Virus :: Typhoid :	IV.	Malaria

Choose the correct answer from the options given below:

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

Options :

68634030501. 1
68634030502. 2
68634030503. 3
68634030504. 4

Question Number : 26 Question Id : 6863407715 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 : 4 Wrong Marks : 1

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	कुत्ता:रेबिज::मच्छर	I.	जीवाणु
B.	शब्दस्मृतिलोप:स्मृति :: पक्षाघात	II.	यकृत
C.	मस्तिष्कावरण शोध: मस्तिष्क::सिरोसिस	III.	संचलन
D.	इन्फ्लुएंजा:विषाणु :: टाइफाइड	IV.	मलेरिया

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

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

Options :

68634030501. 1
68634030502. 2

68634030503. 3

68634030504. 4

Question Number : 27 Question Id : 6863407716 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 : 4 Wrong Marks : 1

If A, B and C are acute positive angles such that $A + B + C = \pi$ and $\cot A \cot B \cot C = K$, then

1. $K \leq \frac{1}{3\sqrt{3}}$

2. $K \geq \frac{1}{3\sqrt{3}}$

3. $K < \frac{1}{9}$

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

Options :

68634030505. 1

68634030506. 2

68634030507. 3

68634030508. 4

Question Number : 27 Question Id : 6863407716 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 : 4 Wrong Marks : 1

अगर A, B और C सकारात्मक न्यून कोण इस प्रकार से हैं जहाँ $A + B + C = \pi$ और $\cot A \cot B \cot C = K$, तब

1. $K \leq \frac{1}{3\sqrt{3}}$

2. $K \geq \frac{1}{3\sqrt{3}}$

3. $K < \frac{1}{9}$

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

Options :

68634030505. 1

68634030506. 2
68634030507. 3
68634030508. 4

Question Number : 28 Question Id : 6863407717 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 : 4 Wrong Marks : 1

The two adjacent sides of a cyclic QUADRILATERAL are 2 and 5 and the angle between them is 60° . If the third side is 3, the remaining fourth side is -

1. 2
2. 3
3. 4
4. 5

Options :

68634030509. 1
68634030510. 2
68634030511. 3
68634030512. 4

Question Number : 28 Question Id : 6863407717 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 : 4 Wrong Marks : 1

एक चक्रिय चतुर्भुज के दो आसन्न भुजाएँ 2 और 5 हैं, तथा उनके बीच का कोण 60° है। अगर तीसरी भुजा 3 है तो बची हुई चौथी भुजा है-

1. 2
2. 3
3. 4
4. 5

Options :

68634030509. 1
68634030510. 2
68634030511. 3
68634030512. 4

Question Number : 29 Question Id : 6863407718 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 : 4 Wrong Marks : 1

The top of a hill observed from the top and bottom of a building of height h is at angles of elevation p and q respectively. The height of the hill is -

1. $\frac{h \cot q}{\cot q - \cot p}$

2. $\frac{h \cot p}{\cot p - \cot q}$

3. $\frac{h \tan p}{\tan p - \tan q}$

4. $\frac{h \sec p}{\tan p - \tan q}$

Options :

68634030513. 1

68634030514. 2

68634030515. 3

68634030516. 4

Question Number : 29 Question Id : 6863407718 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 : 4 Wrong Marks : 1

एक पहाड़ी के शीर्ष को किसी h ऊँचाई के भवन के शीर्ष और तल से अवलोकन किया जाता है तो इसकी उन्नयन कोण क्रमशः p और q हैं। पहाड़ी की ऊँचाई है

1. $\frac{h \cot q}{\cot q - \cot p}$

2. $\frac{h \cot p}{\cot p - \cot q}$

3. $\frac{h \tan p}{\tan p - \tan q}$

4. $\frac{h \sec p}{\tan p - \tan q}$

Options :

68634030513. 1

68634030514. 2

68634030515. 3

68634030516. 4

Question Number : 30 Question Id : 6863407719 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 : 4 Wrong Marks : 1

Given below are two statements :

Statement I : If the roots of the quadratic equation $x^2 - 4x - \log_3 a = 0$ are real, then the least value of a is $1/81$.

Statement II : The harmonic mean of the roots of the equation $(5 + \sqrt{2})x^2 - (4 + \sqrt{5})x + (8 + 2\sqrt{5}) = 0$ is 2.

In the light of the above statements, choose the correct answer from the options given below :

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

68634030517. 1
68634030518. 2
68634030519. 3
68634030520. 4

Question Number : 30 Question Id : 6863407719 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 : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं:

कथन I: अगर द्विघातीय समीकरण $x^2 - 4x - \log_3 a = 0$ के मूल वास्तविक हैं तो a की सबसे कम मान $1/81$ है।

कथन II: समिकरण $(5 + \sqrt{2})x^2 - (4 + \sqrt{5})x + (8 + 2\sqrt{5}) = 0$ के मूलों का अनुकूल माध्य 2 हैं।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए

1. कथन I और कथन II दोनों सही है।
2. कथन I और कथन II दोनों सही नहीं है।
3. कथन I सही हैं, लेकिन कथन II गलत है।
4. कथन I सही नहीं हैं, लेकिन कथन II सही है।

Options :

68634030517. 1
68634030518. 2
68634030519. 3
68634030520. 4

Question Number : 31 Question Id : 6863407720 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 : 4 Wrong Marks : 1

The mean deviation from the mean of the AP $a, a + d, a + 2d, \dots, a + 2nd$ is

1. $n(n+1)d$
2. $\frac{n(n+1)d}{2n+1}$
3. $\frac{n(n+1)d}{2n}$
4. $\frac{n(n-1)d}{2n+1}$

Options :

68634030521. 1
68634030522. 2
68634030523. 3
68634030524. 4

Question Number : 31 Question Id : 6863407720 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 : 4 Wrong Marks : 1

$a, a + d, a + 2d, \dots, a + 2nd$ समांतर श्रेणी (AP) के माध्य का माध्य विचलन है।

1. $n(n+1)d$
2. $\frac{n(n+1)d}{2n+1}$
3. $\frac{n(n+1)d}{2n}$
4. $\frac{n(n-1)d}{2n+1}$

Options :

68634030521. 1
68634030522. 2
68634030523. 3
68634030524. 4

Question Number : 32 Question Id : 6863407721 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 : 4 Wrong Marks : 1

Match List I with List II

LIST I		LIST II	
A.	Addition Theorem on probability	I.	$P(E_i / A) = \frac{P(E_i)P(A / E_i)}{\sum_{i=1}^n P(E_i)P(A / E_i)}, i = 1, 2$
B.	Binomial distribution	II.	$P(A \cap B) = P(A)P(B / A), \text{ if } P(A) \neq 0$
C.	Baye's rule	III.	$P(A \cup B) = P(A) + P(A) + P(B) - P(A \cap B)$
D.	Multiplication theorem on prob	IV.	$P(x = r) = {}^n C_r p^r q^{n-r}, r = 0, 1, \dots, n$

Choose the correct answer from the options given below:

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

Options :

68634030525. 1
68634030526. 2
68634030527. 3
68634030528. 4

Question Number : 32 Question Id : 6863407721 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 : 4 Wrong Marks : 1

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	प्रायिकता का योग प्रमेय	I.	$P(E_i / A) = \frac{P(E_i)P(A / E_i)}{\sum_{i=1}^n P(E_i)P(A / E_i)}, i = 1, 2$
B.	द्विपद वितरण	II.	$P(A \cap B) = P(A)P(B / A), \text{ if } P(A) \neq 0$
C.	बेयज का नियम	III.	$P(A \cup B) = P(A) + P(B) - P(A \cap B)$
D.	प्रायिकता का गुणन प्रमेय	IV.	$P(x = r) = {}^n C_r p^r q^{n-r}, r = 0, 1, \dots, n$

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

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

Options :

68634030525. 1
68634030526. 2
68634030527. 3
68634030528. 4

Question Number : 33 Question Id : 6863407722 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 : 4 Wrong Marks : 1

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion A : If the A.M. and G.M. between two numbers are in the ratio $m : n$, then the numbers are in the ratio $m + \sqrt{m^2 - n^2} : m - \sqrt{m^2 - n^2}$

Reason R : If each term of a G.P. be raised to the same power, the resulting sequence also forms a G.P.

In the light of the above statements, choose the correct answer from the options given below :

1. Both A and R are true and R is the correct explanation of A
2. Both A and R are true but R is not the correct explanation of A
3. A is true but R is false
4. A is false but R is true

Options :

68634030529. 1

68634030530. 2

68634030531. 3

68634030532. 4

Question Number : 33 Question Id : 6863407722 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 : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं, एक अभिकथन (Assertion A) के रूप में लिखित है तो दूसरा उसके कारण (Reason R)के रूप में

अभिकथनA: अगर दो संख्याओं के समांतर माध्य (A.M.)और गुणोत्तर माध्य (G.M.) m:n अनुपात में हैं। तो संख्याएँ $m + \sqrt{m^2 - n^2} : m - \sqrt{m^2 - n^2}$ अनुपात में होती है।

कारण R: अगर गुणोत्तर श्रेणी के प्रत्येक पदों को समान घात से बढ़ा दिया जाए तो परिणामी क्रम भी गुणोत्तर श्रेणी बनाता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए

1. और R दोनों सही हैं और R, A की सही व्याख्या है
2. और R दोनों सही हैं और R, A की सही व्याख्या नहीं है
3. A सही है लेकिन R सही नहीं है
4. A सही नहीं है लेकिन R सही है

Options :

68634030529. 1
68634030530. 2
68634030531. 3
68634030532. 4

Question Number : 34 Question Id : 6863407723 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 : 4 Wrong Marks : 1

Let E be the ellipse $\frac{x^2}{9} + \frac{y^2}{4} = 1$ and C be the circle $x^2 + y^2 = 9$. Let P and Q be the points (1, 2) and (2, 1) respectively. Then

1. Q lies inside C but outside E
2. Q lies outside both C and E
3. P lies inside both C and E
4. P lies inside C but outside E

Options :

68634030533. 1
68634030534. 2
68634030535. 3
68634030536. 4

Question Number : 34 Question Id : 6863407723 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 : 4 Wrong Marks : 1

माना E एक दीर्घवृत्त $\frac{x^2}{9} + \frac{y^2}{4} = 1$ है और C एक वृत्त $x^2 + y^2 = 9$ । माना P और Q क्रमशः बिंदु (1, 2) और (2, 1) हैं। तब

1. Q, C के अंदर लेकिन E के बाहर रहता है।
2. Q, C और E दोनों के बाहर रहता है।
3. P, C और E दोनों के अंदर रहता है।
4. P, C के अंदर लेकिन E के बाहर रहता है।

Options :

- 68634030533. 1
- 68634030534. 2
- 68634030535. 3
- 68634030536. 4

Question Number : 35 Question Id : 6863407724 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 : 4 Wrong Marks : 1

If a Chord which is normal to the parabola $y^2 = 4ax$ at one end subtends a right angle at the vertex, then its slope is -

1. 1
2. $\sqrt{3}$
3. $\sqrt{2}$
4. 2

Options :

- 68634030537. 1
- 68634030538. 2
- 68634030539. 3
- 68634030540. 4

Question Number : 35 Question Id : 6863407724 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 : 4 Wrong Marks : 1

माना एक जीवा परवलय $y^2 = 4ax$ के एक छोर पर लंब है और शीर्ष पर समकोण बनती है तो इसका ढाल है

1. 1

2. $\sqrt{3}$

3. $\sqrt{2}$

4. 2

Options :

68634030537. 1

68634030538. 2

68634030539. 3

68634030540. 4

Question Number : 36 Question Id : 6863407725 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 : 4 Wrong Marks : 1

A straight line has equation $y = -x + 6$ which of the following line is parallel to it?

1. $2y + 3x = -5$

2. $-3x - 3y + 7 = 0$

3. $2y = -x + 12$

4. $y - x = \frac{1}{10}$

Options :

68634030541. 1

68634030542. 2

68634030543. 3

68634030544. 4

Question Number : 36 Question Id : 6863407725 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 : 4 Wrong Marks : 1

एक सरल रेखा का समीकरण है $y = -x + 6$ तो निम्न में से कौन रेखा इसके समानांतर है?

1. $2y + 3x = -5$

2. $-3x - 3y + 7 = 0$

3. $2y = -x + 12$

4. $y - x = \frac{1}{10}$

Options :

68634030541. 1

68634030542. 2

68634030543. 3

68634030544. 4

Question Number : 37 Question Id : 6863407726 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 : 4 Wrong Marks : 1

Match List I with List II

LIST I		LIST II	
A.	Value of $\lim_{x \rightarrow 0} \left(\frac{\sin x}{x} \right)^{\frac{\sin x}{x - \sin x}}$ is	I.	e^3
B.	Value of $\lim_{x \rightarrow 0} \int_0^x \frac{\sin t^2 dt}{x^2}$ is	II.	0
C.	Value of $\lim_{x \rightarrow 0} (e^{2x} + x)^{\frac{1}{x}}$ is	III.	1
D.	Value $\lim_{x \rightarrow a} \frac{\log(x - a)}{\log(e^x - e^a)}$ of	IV.	e^{-1}

Choose the correct answer from the options given below:

1. A-II, B-III, C-I, D-IV

2. A-II, B-IV, C-III, D-I

3. A-IV, B-II, C-III, D-I

4. A-IV, B-II, C-I, D-III

Options :

68634030545. 1
 68634030546. 2
 68634030547. 3
 68634030548. 4

Question Number : 37 Question Id : 6863407726 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 : 4 Wrong Marks : 1

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	$\lim_{x \rightarrow 0} \left(\frac{\sin x}{x} \right)^{\frac{\sin x}{x - \sin x}}$ का मान है	I.	e^3
B.	$\lim_{x \rightarrow 0} \int_0^x \frac{\sin t^2 dt}{x^2}$ का मान है	II.	0
C.	$\lim_{x \rightarrow 0} (e^{2x} + x)^{\frac{1}{x}}$ का मान है	III.	1
D.	$\lim_{x \rightarrow a} \frac{\log(x-a)}{\log(e^x - e^a)}$ का मान है	IV.	e^{-1}

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

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

Options :

68634030545. 1
 68634030546. 2
 68634030547. 3
 68634030548. 4

Question Number : 38 Question Id : 6863407727 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 : 4 Wrong Marks : 1

Match List I with List II

LIST I		LIST II	
A.	The angle between the straight lines, $2x^2 + 3y^2 - 7xy = 0$ is	I.	$\tan^{-1} \frac{3}{5}$
B.	The circles $x^2 + y^2 + x + y = 0$ and $x^2 + y^2 + x - y = 0$ intersect at an angle	II.	25π
C.	The area of circle centred at (1, 2) and passing through (4, 6) is	III.	$\pi/4$
D.	The parabolas $y^2 = 4x$ and $x^2 = 32y$ intersect at point (16,8) at angle	IV.	$\pi/2$

Choose the correct answer from the options given below:

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

Options :

68634030549. 1
 68634030550. 2
 68634030551. 3
 68634030552. 4

Question Number : 38 Question Id : 6863407727 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 : 4 Wrong Marks : 1

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	सरल रेखाएँ, $2x^2 + 3y^2 - 7xy = 0$ के बीच का कोण है	I.	$\tan^{-1} \frac{3}{5}$
B.	वृत्त $x^2 + y^2 + x + y = 0$ और $x^2 + y^2 + x - y = 0$ के कोण पर काटते हैं	II.	25π
C.	एक वृत्त जो (1, 2) पर केंद्रित है और (4, 6) से गुजरता है तो उसका क्षेत्रफल है	III.	$\pi/4$
D.	परवलय $y^2 = 4x$ और $x^2 = 32y$ बिन्दु (16,8) पर कोण पर काटते हैं	IV.	$\pi/2$

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

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

Options :

68634030549. 1
68634030550. 2
68634030551. 3
68634030552. 4

Question Number : 39 Question Id : 6863407728 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 : 4 Wrong Marks : 1

Match List I with List II

LIST I		LIST II	
A.	8 : 81 :: 64 : ?	I.	290
B.	182 : ? :: 210 : 380	II.	132
C.	42 : 56 : 110 : ?	III.	342
D.	48 : 122 :: 168 : ?	IV.	625

Choose the correct answer from the options given below:

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

Options :

68634030553. 1
68634030554. 2
68634030555. 3
68634030556. 4

Question Number : 39 Question Id : 6863407728 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 : 4 Wrong Marks : 1

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	8 : 81 :: 64 : ?	I.	290
B.	182 : ? :: 210 : 380	II.	132
C.	42 : 56 : 110 : ?	III.	342
D.	48 : 122 :: 168 : ?	IV.	625

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

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

Options :

68634030553. 1
68634030554. 2
68634030555. 3

Question Number : 40 Question Id : 6863407729 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 : 4 Wrong Marks : 1

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion A : An elevator starts with m passengers and stops at n floors ($m \leq n$). The probability that no two passengers alight at the same floor is $\frac{{}^n P_m}{m^n}$.

Reason R : If $(n + 1)p$ is an integer, say m , then $P(x = r) = {}^n C_r p^r (1 - p)^{n-r}$ is maximum when $r = m$ or $r = m - 1$

In the light of the above statements, choose the most appropriate answer from the options given below :

1. Both A and R are correct and R is the correct explanation of A
2. Both A and R are correct but R is not the correct explanation of A
3. A is correct but R is not correct
4. A is not correct but R is correct

Options :

- 68634030557. 1
- 68634030558. 2
- 68634030559. 3
- 68634030560. 4

Question Number : 40 Question Id : 6863407729 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 : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं, एक अभिकथन (Assertion A) के रूप में लिखित है तो दूसरा उसके कारण (Reason R)के रूप में

अभिकथनA: एक लिफ्ट m यात्रियों के साथ शुरु होती है और n वे तल पर रुकती है (जहाँ $(m \leq n)$ । समान तल पर दो यात्रियों के नहीं उतरने की प्रायिकता है $\frac{{}^n P_m}{m^n}$ ।

कारण R: यदि $(n + 1)p$ एक पूर्णांक है, माना तब $P(x = r) = {}^n C_r p^r (1 - p)^{n-r}$ अधिकतम है जब $r = m$ या $r = m - 1$ ।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए

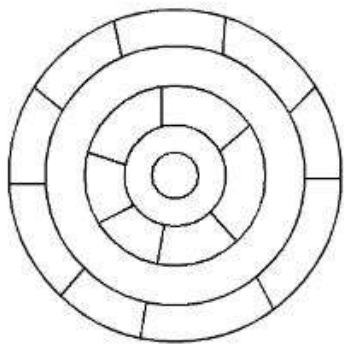
1. A और R दोनों सही हैं और R, A की सही व्याख्या है
2. A और R दोनों सही हैं और R, A की सही व्याख्या नहीं है
3. A सही है लेकिन R सही नहीं है
4. A सही नहीं है लेकिन R सही है

Options :

68634030557. 1
68634030558. 2
68634030559. 3
68634030560. 4

Question Number : 41 Question Id : 6863407730 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 : 4 Wrong Marks : 1

Consider the adjoining diagram : What is the minimum number of different colours required to paint the figure such that no two adjacent regions have same colour?



1. 3

2. 4

3. 5

4. 6

Options :

68634030561. 1

68634030562. 2

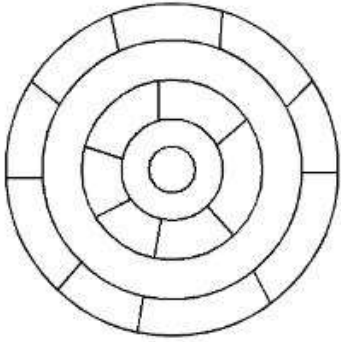
68634030563. 3

68634030564. 4

Question Number : 41 Question Id : 6863407730 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 : 4 Wrong Marks : 1

चित्र को रंगने के लिए न्यूनतम कितने प्रकार के रंगों की जरूरत होगी यदि दो संलग्न क्षेत्रों को समान रंग नहीं दिया जायें ?



1. 3
2. 4
3. 5
4. 6

Options :

- 68634030561. 1
- 68634030562. 2
- 68634030563. 3
- 68634030564. 4

Question Number : 42 Question Id : 6863407731 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 : 4 Wrong Marks : 1

These are eight members in the family. Bravo and Priya are siblings. Angel is Kajal's grand daughter, Kajal who is Priya's mother-in-law. Ziva is a married woman and is older than Tim. Tim is the son of Sam who is the brother-in-law of Bravo. Smith is the eldest male in the family. Angel is not Ziva's daughter. So how is Bravo related to Ziva?

1. Son
2. Husband
3. Brother-in-law
4. Son-in-law

Options :

- 68634030565. 1
- 68634030566. 2
- 68634030567. 3
- 68634030568. 4

Question Number : 42 Question Id : 6863407731 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 : 4 Wrong Marks : 1

एक परिवार में आठ सदस्य हैं। ब्रैवो और प्रिया भाई-बहन हैं। एंजेल काजल की पोती है और , काजल प्रिया की सासु माँ है। जीवा एक शादीशुदा औरत है और टिम से बड़ी है। टिम सैम का बेटा है जो ब्रैवो का साला है। स्मिथ परिवार में सबसे बड़ा पुरुष हैं। एंजेल, जीवा की पुत्री नहीं हैं। तो ब्रैवो जीवा से कैसे संबंधित हैं?

1. पुत्र
2. पति
3. साला
4. दामाद

Options :

- 68634030565. 1
- 68634030566. 2
- 68634030567. 3
- 68634030568. 4

Question Number : 43 Question Id : 6863407732 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 : 4 Wrong Marks : 1

Observe the following premises and select the correct conclusion :

Major premise : All engineers are innovative

Minor premise : All students are engineers.

Conclusions :

1. All innovative are students
2. All students are innovative
3. No innovative are students
4. No engineers are students

Options :

- 68634030569. 1
- 68634030570. 2
- 68634030571. 3

Question Number : 43 Question Id : 6863407732 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 : 4 Wrong Marks : 1

निम्नलिखित परिसरों का निरिक्षण करें और सही निष्कर्ष चुनें,

प्रमुख परिसर- सभी इंजीनियर नवाचारी हैं।

मामूली परिसर- सभी विद्यार्थी इंजीनियर हैं।

निष्कर्ष

1. सभी नवाचारी विद्यार्थी हैं
2. सभी विद्यार्थी नवाचारी हैं
3. कोई नवाचारी विद्यार्थी नहीं है
4. कोई इंजीनियर विद्यार्थी नहीं है

Options :

68634030569. 1
68634030570. 2
68634030571. 3
68634030572. 4

Question Number : 44 Question Id : 6863407733 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 : 4 Wrong Marks : 1

Find out the trend and choose the missing character from given alternative.

2	5	10
17	?	37
50	65	82

1. 20
2. 26
3. 27
4. 32

Options :

68634030573. 1
68634030574. 2
68634030575. 3
68634030576. 4

**Question Number : 44 Question Id : 6863407733 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 : 4 Wrong Marks : 1**

दिए हुए तालिका में चलन का पता लगाएँ और खोए हुए संख्या को चुने

2	5	10
17	?	37
50	65	82

1. 20

2. 26

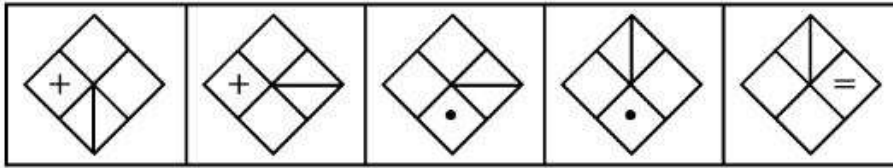
3. 27

4. 32

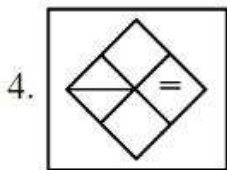
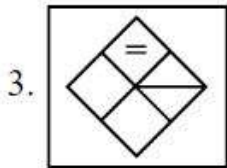
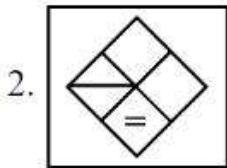
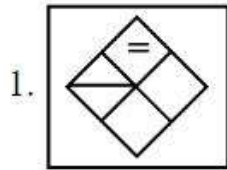
Options :

68634030573. 1
68634030574. 2
68634030575. 3
68634030576. 4

**Question Number : 45 Question Id : 6863407734 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 : 4 Wrong Marks : 1**



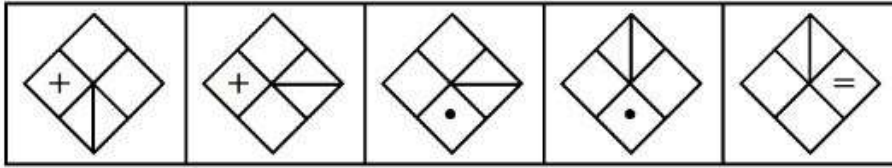
Which of the following will be the next figure in the sequence.



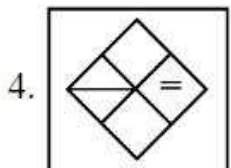
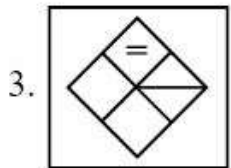
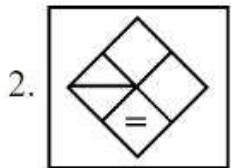
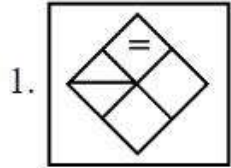
Options :

- 68634030577. 1
- 68634030578. 2
- 68634030579. 3
- 68634030580. 4

Question Number : 45 Question Id : 6863407734 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 : 4 Wrong Marks : 1



उपर दिए क्रम में अगला चित्र निम्न में से कौन होगा?

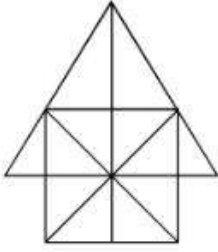


Options :

- 68634030577. 1
- 68634030578. 2
- 68634030579. 3
- 68634030580. 4

Question Number : 46 Question Id : 6863407735 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 : 4 Wrong Marks : 1

Count the number of triangles and square in the given figure.



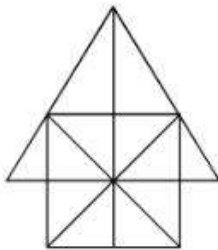
1. 26 triangles, 5 square
2. 28 triangles, 5 square
3. 26 triangles, 6 square
4. 28 triangles, 6 square

Options :

68634030581. 1
68634030582. 2
68634030583. 3
68634030584. 4

Question Number : 46 Question Id : 6863407735 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 : 4 Wrong Marks : 1

दिए हुए चित्र में त्रिभुजों और वर्गों की संख्या गिने।



1. 26 त्रिभुज , 5 वर्ग
2. 28 त्रिभुज , 5 वर्ग
3. 26 त्रिभुज , 6 वर्ग
4. 28 त्रिभुज , 6 वर्ग

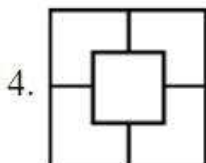
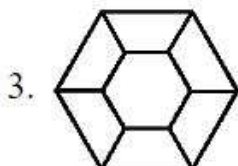
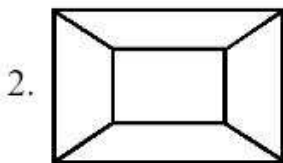
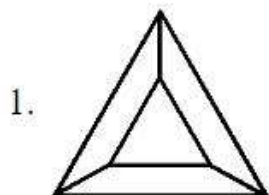
Options :

68634030581. 1
68634030582. 2

68634030583. 3
68634030584. 4

Question Number : 47 Question Id : 6863407736 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 : 4 Wrong Marks : 1

Choose the figure that which is different from the rest?



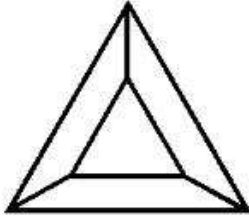
Options :

68634030585. 1
68634030586. 2
68634030587. 3
68634030588. 4

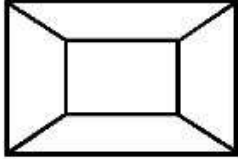
Question Number : 47 Question Id : 6863407736 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 4 Wrong Marks : 1

निम्न में से कौन चित्र औरों से अलग है?

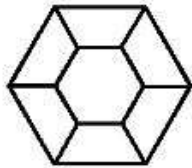
1.



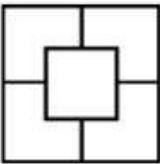
2.



3.



4.



Options :

68634030585. 1

68634030586. 2

68634030587. 3

68634030588. 4

Question Number : 48 Question Id : 6863407737 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 : 4 Wrong Marks : 1

Find the missing term in the given series :

4, 10, ?, 82, 244, 730

1. 24

2. 28

3. 77

4. 218

Options :

68634030589. 1

68634030590. 2

68634030591. 3

68634030592. 4

Question Number : 48 Question Id : 6863407737 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 : 4 Wrong Marks : 1

दिए हुए श्रेणि में से लुप्त संख्या का पता लगाएँ :

4, 10, ?, 82, 244, 730

1. 24

2. 28

3. 77

4. 218

Options :

68634030589. 1

68634030590. 2

68634030591. 3

68634030592. 4

Question Number : 49 Question Id : 6863407738 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 : 4 Wrong Marks : 1

The tangent to the hyperbola $x^2 - y^2 = 3$ are parallel to the straight line $2x + y + 8 = 0$ at the following points :

1. (2, 2), (1, 2)

2. (2, -1), (-2, 1)

3. (-2, -1), (1, 2)

4. (-2, -1), (-1, -2)

Options :

68634030593. 1

68634030594. 2

68634030595. 3

68634030596. 4

Question Number : 49 Question Id : 6863407738 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 : 4 Wrong Marks : 1

अतिपरवलय $x^2 - y^2 = 3$ का स्पर्श रेखा सरल, रेखा $2x + y + 8 = 0$ के निम्न बिंदुओं पर समानांतर है :

1. (2, 2), (1, 2)
2. (2, -1), (-2, 1)
3. (-2, -1), (1, 2)
4. (-2, -1), (-1, -2)

Options :

68634030593. 1
68634030594. 2
68634030595. 3
68634030596. 4

Question Number : 50 Question Id : 6863407739 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 : 4 Wrong Marks : 1

A circle S passes through the point (0, 1) and is orthogonal to the circles $(x - 1)^2 + y^2 = 16$ and $x^2 + y^2 = 1$. Then

- A. Radius of S is 8
- B. Radius of S is 7
- C. Centre of S is (-7, 1)
- D. Centre of S is (-8, 1)

1. A only
2. A and B only
3. B and C only
4. D only

Options :

68634030597. 1
68634030598. 2
68634030599. 3
68634030600. 4

Question Number : 50 Question Id : 6863407739 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 : 4 Wrong Marks : 1

एक वृत्त S बिंदू (0, 1) से गुजरती है और यह दो वृत्तों $(x-1)^2 + y^2 = 16$ और $x^2 + y^2 = 1$ के लंबवत (orthogonal) हैं तो

- A. S की त्रिज्या 8 है।
- B. S की त्रिज्या 7 है।
- C. S की केंद्र (-7, 1) है।
- D. S की केंद्र (-8, 1) है।

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

1. केवल A
2. केवल A और B
3. केवल B और C
4. केवल D

Options :

- 68634030597. 1
- 68634030598. 2
- 68634030599. 3
- 68634030600. 4

Question Number : 51 Question Id : 6863407740 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 : 4 Wrong Marks : 1

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion A : The number of parallelograms in a chess board is 1296.

Reason R : The number of parallelograms when a set of m parallel lines is intersected by another set of n parallel lines is ${}^mC_2 \cdot {}^nC_2$

In the light of the above statements, choose the correct answer from the options given below :

1. Both A and R are true and R is the correct explanation of A
2. Both A and R are true but R is not the correct explanation of A
3. A is true but R is false
4. A is false but R is true

Options :

68634030601. 1
68634030602. 2
68634030603. 3
68634030604. 4

Question Number : 51 Question Id : 6863407740 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 : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं, एक अभिकथन (Assertion A) के रूप में लिखित है तो दूसरा उसके कारण (Reason R)के रूप में

अभिकथन A: शतरंज के बोर्ड में समांतर चतुर्भुजों की संख्या 1296 है।

कारण R: जब एक समुह के m समांतर रेखाएँ दूसरे समुह के n समांतर रेखाओं को प्रतिच्छेद करती है तो समांतर चतुर्भुजों की संख्या ${}^mC_2 \cdot {}^nC_2$ होती है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए

1. A और R दोनों सही हैं और R, A की सही व्याख्या है
2. A और R दोनों सही हैं और R, A की सही व्याख्या नहीं है
3. A सही है लेकिन R सही नहीं है
4. A सही नहीं है लेकिन R सही है

Options :

- 68634030601. 1
- 68634030602. 2
- 68634030603. 3
- 68634030604. 4

Question Number : 52 Question Id : 6863407741 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 : 4 Wrong Marks : 1

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion A : If two circles intersect at two points, then the line joining their centres is perpendicular to the common chord.

Reason R : The perpendicular bisectors of two chords of a circle intersect at its centre.

In the light of the above statements, choose the correct answer from the options given below :

1. Both A and R are true and R is the correct explanation of A
2. Both A and R are true but R is not the correct explanation of A
3. A is true but R is false
4. A is false but R is true

Options :

- 68634030605. 1
- 68634030606. 2
- 68634030607. 3
- 68634030608. 4

Question Number : 52 Question Id : 6863407741 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 : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं, एक अभिकथन (Assertion A) के रूप में लिखित है तो दूसरा उसके कारण (Reason R)के रूप में

अभिकथन A: अगर दो वृत्त दो बिंदुओं पर प्रतिच्छेद करते हैं तो उनके केंद्र बिंदुओं को मिलाने वाली रेखा सामान्य जिवा के लंबवत होती है।

कारण R: वृत्त के दो जिवाओं के लंबवत द्विभाजक उसके केंद्रबिंदू को प्रतिच्छेद करते हैं।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए

1. A और R दोनों सही हैं और R, A की सही व्याख्या है
2. A और R दोनों सही हैं और R, A की सही व्याख्या नहीं है
3. A सही है लेकिन R सही नहीं है
4. A सही नहीं है लेकिन R सही है

Options :

68634030605. 1
68634030606. 2
68634030607. 3
68634030608. 4

Question Number : 53 Question Id : 6863407742 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 : 4 Wrong Marks : 1

A triangle with vertices $(4, 0)$, $(-1, -1)$, $(3, 5)$ is

1. Isosceles and right angled
2. Isosceles but not right angled
3. Right angled but not isosceles
4. Neither right angled nor isosceles

Options :

68634030609. 1
68634030610. 2
68634030611. 3
68634030612. 4

Question Number : 53 Question Id : 6863407742 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 : 4 Wrong Marks : 1

एक त्रिभुज (4, 0), (-1, -1), (3, 5) शीर्ष वाले

1. समद्विबाहू और समकोणिय है।
2. समद्विबाहू है लेकिन समकोणिय नहीं है।
3. समकोणिय है लेकिन समद्विबाहू नहीं है।
4. ना तो समकोणिय है ना समद्विबाहू है।

Options :

68634030609. 1
68634030610. 2
68634030611. 3
68634030612. 4

Question Number : 54 Question Id : 6863407743 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 : 4 Wrong Marks : 1

Given below are two statements :

Statement I : $\int_{-a}^a f(x)dx = \int_0^a [f(x) + f(-x)]dx$

Statement II : $\int_0^1 \sqrt{(1+x)(1+x^3)} dx$ is less than or equal to $\frac{15}{8}$.

In the light of the above statements, choose the most appropriate answer from the options given below :

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

68634030613. 1
68634030614. 2
68634030615. 3
68634030616. 4

Question Number : 54 Question Id : 6863407743 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 : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं:

$$\text{कथन I : } \int_{-a}^a f(x)dx = \int_0^a [f(x) + f(-x)]dx$$

$$\text{कथन II : } \int_0^1 \sqrt{(1+x)(1+x^3)} dx \frac{15}{8} \text{ से कम या बराबर है}$$

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए

1. कथन I और कथन II दोनों सही है
2. कथन I और कथन II दोनों सही नहीं है
3. कथन I सही है, लेकिन कथन II गलत है
4. कथन I सही नहीं है, लेकिन कथन II सही है

Options :

68634030613. 1
68634030614. 2
68634030615. 3
68634030616. 4

Question Number : 55 Question Id : 6863407744 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 : 4 Wrong Marks : 1

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

$$\text{Assertion A : } \int_{-3}^3 (x^3 + 5)dx = 30$$

Reason R : $f(x) = x^3 + 5$ is an odd function

In the light of the above statements, choose the correct answer from the options given below :

1. Both A and R are true and R is the correct explanation of A
2. Both A and R are true but R is not the correct explanation of A
3. A is true but R is false
4. A is false but R is true

Options :

68634030617. 1
68634030618. 2
68634030619. 3

Question Number : 55 Question Id : 6863407744 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 : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं, एक अभिकथन (Assertion A) के रूप में लिखित है तो दूसरा उसके कारण (Reason R)के रूप में

$$\text{अभिकथन A : } \int_{-3}^3 (x^3 + 5)dx = 30$$

कारण R : $f(x) = x^3 + 5$ एक विषम फलन है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए

1. A और R दोनों सही है और R, A की सही व्याख्या है
2. A और R दोनों सही है और R, A की सही व्याख्या नहीं है
3. A सही है लेकिन R सही नहीं है
4. A सही नहीं है लेकिन R सही है

Options :

68634030617. 1
68634030618. 2
68634030619. 3
68634030620. 4

Question Number : 56 Question Id : 6863407745 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 : 4 Wrong Marks : 1

Which of the following functions is differentiable at $x = 0$?

1. $\cos(|x|) + |x|$
2. $\cos(|x|) - |x|$
3. $\sin(|x|) + |x|$
4. $\sin(|x|) - |x|$

Options :

68634030621. 1
68634030622. 2
68634030623. 3

68634030624. 4

Question Number : 56 Question Id : 6863407745 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 : 4 Wrong Marks : 1

निम्न में से कौन सा फलन $x = 0$ पर अवकलनिय है?

1. $\cos(|x|) + |x|$

2. $\cos(|x|) - |x|$

3. $\sin(|x|) + |x|$

4. $\sin(|x|) - |x|$

Options :

68634030621. 1

68634030622. 2

68634030623. 3

68634030624. 4

Question Number : 57 Question Id : 6863407746 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 : 4 Wrong Marks : 1

If f and g are differentiable functions in $(0, 1)$ satisfying $f(0) = 2 = g(1)$, $g(0) = 0$ and $f(1) = 6$, then for some $c \in]0, 1[$

1. $2f'(c) = g'(c)$

2. $2f'(c) = 3g'(c)$

3. $f'(c) = g'(c)$

4. $f'(c) = 2g'(c)$

Options :

68634030625. 1

68634030626. 2

68634030627. 3

68634030628. 4

Question Number : 57 Question Id : 6863407746 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 : 4 Wrong Marks : 1

अगर f और g $(0, 1)$ में अवकलनिय फलन हैं जो $f(0) = 2 = g(1)$, $g(0) = 0$ and $f(1) = 6$, को संतुष्ट कर रहा तो कुछ $c \in]0, 1[$ के लिए

1. $2f'(c) = g'(c)$

2. $2f'(c) = 3g'(c)$

3. $f'(c) = g'(c)$

4. $f'(c) = 2g'(c)$

Options :

68634030625. 1

68634030626. 2

68634030627. 3

68634030628. 4

Question Number : 58 Question Id : 6863407747 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 : 4 Wrong Marks : 1

If the curve $ay + x^2 = 7$ and $x^3 = y$, cut orthogonally at $(1, 1)$, then the value of a is -

1. 1

2. 6

3. -6

4. 0

Options :

68634030629. 1

68634030630. 2

68634030631. 3

68634030632. 4

Question Number : 58 Question Id : 6863407747 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 : 4 Wrong Marks : 1

अगर वक्र $ay + x^2 = 7$ और $x^3 = y$, बिंदू $(1, 1)$, पर लम्बवत (orthogonally) काटते हैं तो a का मान -

1. 1
2. 6
3. -6
4. 0

Options :

68634030629. 1
68634030630. 2
68634030631. 3
68634030632. 4

Question Number : 59 Question Id : 6863407748 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 : 4 Wrong Marks : 1

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion A : If $a \neq b$, then $(a, b) \neq (b, a)$

Reason R : $(4, -3)$ lies in quadrant IV.

In the light of the above statements, choose the correct answer from the options given below :

1. Both A and R are true and R is the correct explanation of A
2. Both A and R are true but R is not the correct explanation of A
3. A is true but R is false
4. A is false but R is true

Options :

68634030633. 1
68634030634. 2
68634030635. 3
68634030636. 4

Question Number : 59 Question Id : 6863407748 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 : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं, एक अभिकथन (Assertion A) के रूप में लिखित है तो दूसरा उसके कारण (Reason R)के रूप में

अभिकथनA: यदि $a \neq b$, तब $(a, b) \neq (b, a)$

कारण R: $(4, -3)$ चतुर्थांश भाग (IV) में रहता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए

1. A और R दोनों सही है और R, A की सही व्याख्या है
2. A और R दोनों सही है और R, A की सही व्याख्या नहीं है
3. A सही है लेकिन R सही नहीं है
4. A सही नहीं है लेकिन R सही है

Options :

68634030633. 1
68634030634. 2
68634030635. 3
68634030636. 4

Question Number : 60 Question Id : 6863407749 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 : 4 Wrong Marks : 1

The point(s) at which function f is given by $f(x) = \begin{cases} \frac{x}{|x|}; & x < 0 \\ -1; & x \geq 0 \end{cases}$ is continuous is/are

1. $x \in \mathbb{R}$
2. $x = 0$
3. $x \in \mathbb{R} \setminus \{0\}$
4. -1 and 1

Options :

68634030637. 1
68634030638. 2
68634030639. 3
68634030640. 4

Question Number : 60 Question Id : 6863407749 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 : 4 Wrong Marks : 1

$$f(x) = \begin{cases} \frac{x}{|x|}; & x < 0 \\ -1; & x \geq 0 \end{cases} \text{ फलन } f \text{ किस बिंदु / बिंदुओं पर लगातार है/हैं}$$

1. $x \in \mathbb{R}$
2. $x = 0$
3. $x \in \mathbb{R} \setminus \{0\}$
4. -1 और 1

Options :

68634030637. 1
 68634030638. 2
 68634030639. 3
 68634030640. 4

Question Number : 61 Question Id : 6863407750 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 : 4 Wrong Marks : 1

Match List I with List II

LIST I		LIST II	
A.	No. of triangles formed using 5 points in a line and 3 points on parallel line is	I.	20
B.	No. of diagonals drawn using the vertices of an octagon	II.	10
C.	The no. of diagonals in a regular polygon of 100 sides is	III.	45
D.	A polygon with 35 diagonals has sides	IV.	4850

Choose the correct answer from the options given below:

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

Options :

68634030641. 1
 68634030642. 2
 68634030643. 3
 68634030644. 4

Question Number : 61 Question Id : 6863407750 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 : 4 Wrong Marks : 1

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	एक रेखा में 5 बिंदुओं और उसके समांतर रेखा में 3 बिंदुओं से त्रिभुज बनाए जा सकते	I.	20
B.	अष्टभुज के शीर्षों के उपयोग करके, कितनी संख्या में कर्ण खिंचे जा सकते हैं	II.	10
C.	100 रेखाओं वाले नियमित बहुभुज में कर्णों की संख्या	III.	45
D.	35 कर्णों वाले बहुभुज की भुजाएँ हैं	IV.	4850

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

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

Options :

68634030641. 1
68634030642. 2
68634030643. 3
68634030644. 4

Question Number : 62 Question Id : 6863407751 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 : 4 Wrong Marks : 1

Which of the following is true :

- A. If $a \cos A = b \cos B$, then the triangle is isosceles or right angled.
- B. If in a triangle ABC, $\cos A \cos B + \sin A \sin B \sin C = 1$ then the triangle is isosceles right angled.
- C. If the ex-radii r_1, r_2, r_3 of ΔABC are in the HP, then its sides are not in AP

Choose the correct answer from the options given below :

1. A and B only
2. B and C only
3. B and C only
4. B only

Options :

68634030645. 1
68634030646. 2

68634030647. 3

68634030648. 4

Question Number : 62 Question Id : 6863407751 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 : 4 Wrong Marks : 1

निम्न में से कौन सत्य है:

- A. यदि $a \cos A = b \cos B$, तब त्रिभूज समद्विबाहू या समकोणीय है।
- B. यदि किसी त्रिभूज ABC में, $\cos A \cos B + \sin A \sin B \sin C = 1$ तब त्रिभूज समद्विबाहू समकोणिय है।
- C. यदि (ex-radii) बाह्य त्रिज्या r_1, r_2, r_3 त्रिभूज ΔABC में HP, (हरात्मक श्रेणी) में है तो इसकी भुजाएँ AP (समांतर श्रेणी) में नहीं हैं।

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

1. केवल A और B
2. केवल B और C
3. केवल B और C
4. केवल B

Options :

68634030645. 1

68634030646. 2

68634030647. 3

68634030648. 4

Question Number : 63 Question Id : 6863407752 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 : 4 Wrong Marks : 1

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion A : $f(x) = \tan^2 x$ is continuous at $x = \pi/2$

Reason R : $g(x) = x^2$ is continuous at $x = \pi/2$

In the light of the above statements, choose the correct answer from the options given below :

1. Both A and R are true and R is the correct explanation of A
2. Both A and R are true but R is not the correct explanation of A
3. A is true but R is false
4. A is false but R is true

Options :

68634030649. 1
68634030650. 2
68634030651. 3
68634030652. 4

Question Number : 63 Question Id : 6863407752 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 : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं, एक अभिकथन (Assertion A) के रूप में लिखित है तो दूसरा उसके कारण (Reason R)के रूप में

अभिकथन A : $f(x) = \tan^2 x$ संतत है at $x = \pi/2$ पर

कारण R : $g(x) = x^2$ is संतत है at $x = \pi/2$ पर

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए

1. A और R दोनों सही है और R, A की सही व्याख्या है
2. A और R दोनों सही है और R, A की सही व्याख्या नहीं है
3. A सही है लेकिन R सही नहीं है
4. A सही नहीं है लेकिन R सही है

Options :

68634030649. 1
68634030650. 2

68634030651. 3

68634030652. 4

Question Number : 64 Question Id : 6863407753 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 : 4 Wrong Marks : 1

For $0 < \theta < \pi/2$, the solution(s) of $\sum_{m=1}^6 \operatorname{cosec}\left(\theta + (m-1)\frac{\pi}{4}\right) \operatorname{coesc}\left(\theta + \frac{m\pi}{4}\right) = 4\sqrt{2}$ is/are

- A. $\pi/4$
- B. $\pi/6$
- C. $\pi/12$
- D. $5\pi/12$

Choose the correct answer from the options given below :

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

Options :

68634030653. 1

68634030654. 2

68634030655. 3

68634030656. 4

Question Number : 64 Question Id : 6863407753 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 : 4 Wrong Marks : 1

$0 < \theta < \pi/2$, के लिए (s) of $\sum_{m=1}^6 \operatorname{cosec}\left(\theta + (m-1)\frac{\pi}{4}\right) \operatorname{coesc}\left(\theta + \frac{m\pi}{4}\right) = 4\sqrt{2}$ मान है / हैं

- A. $\pi/4$
- B. $\pi/6$
- C. $\pi/12$
- D. $5\pi/12$

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

1. केवल A और B
2. केवल C और D
3. केवल A और C
4. केवल B और D

Options :

- 68634030653. 1
- 68634030654. 2
- 68634030655. 3
- 68634030656. 4

Question Number : 65 Question Id : 6863407754 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 : 4 Wrong Marks : 1

If $\sin \beta$ is the GM between $\sin \alpha$ and $\cos \alpha$, then $\cos 2\beta$ is equal to

1. $2 \sin^2\left(\frac{\pi}{4} - \alpha\right)$
2. $2 \cot^2\left(\frac{\pi}{4} - \alpha\right)$
3. $2 \cos^2\left(\frac{\pi}{4} - \alpha\right)$
4. $2 \sin^2\left(\frac{\pi}{4} + \alpha\right)$

Options :

- 68634030657. 1
- 68634030658. 2
- 68634030659. 3
- 68634030660. 4

Question Number : 65 Question Id : 6863407754 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 : 4 Wrong Marks : 1

यदि $\sin \beta$, $\sin \alpha$ और $\cos \alpha$, के बीच का GM (गुणोत्तर माध्यम) है $\cos 2\beta$ बराबर है

1. $2 \sin^2\left(\frac{\pi}{4} - \alpha\right)$

2. $2 \cot^2\left(\frac{\pi}{4} - \alpha\right)$

3. $2 \cos^2\left(\frac{\pi}{4} - \alpha\right)$

4. $2 \sin^2\left(\frac{\pi}{4} + \alpha\right)$

Options :

- 68634030657. 1
- 68634030658. 2
- 68634030659. 3
- 68634030660. 4

Question Number : 66 Question Id : 6863407755 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 : 4 Wrong Marks : 1

The value of $e^{\log_{10} \tan 1^\circ + \log_{10} \tan 2^\circ + \log_{10} \tan 3^\circ + \dots + \log_{10} \tan 89^\circ}$ is

1. 0

2. e

3. $1/e$

4. 1

Options :

- 68634030661. 1
- 68634030662. 2
- 68634030663. 3
- 68634030664. 4

Question Number : 66 Question Id : 6863407755 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 : 4 Wrong Marks : 1

The value of $e^{\log_{10} \tan 1^\circ + \log_{10} \tan 2^\circ + \log_{10} \tan 3^\circ + \dots + \log_{10} \tan 89^\circ}$ का मान

1. 0
2. e
3. $1/e$
4. 1

Options :

68634030661. 1
68634030662. 2
68634030663. 3
68634030664. 4

Question Number : 67 Question Id : 6863407756 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 : 4 Wrong Marks : 1

Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R.

Assertion A : If dot product and cross product of \vec{A} and \vec{B} are zero, it implies that one of the vector \vec{A} and \vec{B} must be null vector

Reason R : Null vector is a vector with a zero magnitude.

In the light of the above statements, choose the correct answer from the options given below :

1. Both A and R are true and R is the correct explanation of A
2. Both A and R are true but R is not the correct explanation of A
3. A is true but R is false
4. A is false but R is true

Options :

68634030665. 1
68634030666. 2
68634030667. 3
68634030668. 4

Question Number : 67 Question Id : 6863407756 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 : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं, एक अभिकथन (Assertion A) के रूप में लिखित है तो दूसरा उसके कारण (Reason R)के रूप में

अभिकथन A :यदि \vec{A} और \vec{B} के डॉट गुणनफल और क्रॉस गुणनफल शून्य हैं। यह दर्शाता है कि सदिश \vec{A} और \vec{B} (null vector) है

Reason R : नल वेक्टर (Null vector) एक वेक्टर है जिसका परिमाण शून्य होता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए

1. A और R दोनों सही है और R, A की सही व्याख्या है
2. A और R दोनों सही है और R, A की सही व्याख्या नहीं है
3. A सही है लेकिन R सही नहीं है
4. A सही नहीं है लेकिन R सही है

Options :

68634030665. 1
68634030666. 2
68634030667. 3
68634030668. 4

Question Number : 68 Question Id : 6863407757 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 : 4 Wrong Marks : 1

If \hat{n}_1, \hat{n}_2 are two unit vectors and θ is the angle between them, then $\cos \frac{\theta}{2}$ is equal to

1. $\frac{1}{2} |\hat{n}_1 + \hat{n}_2|$
2. $\frac{1}{2} |\hat{n}_1 - \hat{n}_2|$
3. $\frac{1}{2} |\hat{n}_1 \cdot \hat{n}_2|$
4. $\frac{|\hat{n}_1 \times \hat{n}_2|}{2 |\hat{n}_1| |\hat{n}_2|}$

Options :

68634030669. 1
68634030670. 2
68634030671. 3
68634030672. 4

Question Number : 68 Question Id : 6863407757 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 : 4 Wrong Marks : 1

अगर \hat{n}_1, \hat{n}_2 दो इकाई वेक्टर सदिश हैं और θ उनके बीच का कोण है तो $\cos \frac{\theta}{2}$ बराबर है

1. $\frac{1}{2} |\hat{n}_1 + \hat{n}_2|$

2. $\frac{1}{2} |\hat{n}_1 - \hat{n}_2|$

3. $\frac{1}{2} |\hat{n}_1 \cdot \hat{n}_2|$

4. $\frac{|\hat{n}_1 \times \hat{n}_2|}{2 |\hat{n}_1| |\hat{n}_2|}$

Options :

68634030669. 1

68634030670. 2

68634030671. 3

68634030672. 4

Question Number : 69 Question Id : 6863407758 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 : 4 Wrong Marks : 1

The moment of the couple formed by the forces $\hat{s}_i + \hat{k}$ and $-\hat{s}_i - \hat{k}$ acting at the points $(9, -1, 2)$ and $(3, -2, 1)$ respectively, is

1. $11\hat{i} - \hat{j} + 5\hat{k}$

2. $-\hat{i} + 11\hat{j} - 5\hat{k}$

3. $-\hat{i} + 11\hat{j} + 5\hat{k}$

4. $\hat{i} - \hat{j} - 5\hat{k}$

Options :

68634030673. 1

68634030674. 2

68634030675. 3

68634030676. 4

Question Number : 69 Question Id : 6863407758 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 : 4 Wrong Marks : 1

दो बलों $\hat{i} + \hat{k}$ और $-\hat{i} - \hat{k}$ द्वारा बिंदुओं (9, -1, 2) और (3, -2, 1) पर क्रमशः लगाये गये युग्मों का संवेग बनाता होगा:

1. $11\hat{i} - \hat{j} + 5\hat{k}$

2. $-\hat{i} + 11\hat{j} - 5\hat{k}$

3. $-\hat{i} + 11\hat{j} + 5\hat{k}$

4. $\hat{i} - \hat{j} - 5\hat{k}$

Options :

68634030673. 1

68634030674. 2

68634030675. 3

68634030676. 4

Question Number : 70 Question Id : 6863407759 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 : 4 Wrong Marks : 1

Which of the following is true :

- A. Two vectors are said to be identical if their difference is zero.
- B. Velocity is not a vector quantity.
- C. Projection of one vector on another is not an application of dot product.
- D. The maximum space rate of change of the function which is increasing direction of line function is known as gradient of scalar function.

Choose the most appropriate answer from the options given below :

1. B and C only

2. A and C only

3. A and D only

4. B and D only

Options :

68634030677. 1

68634030678. 2

68634030679. 3

68634030680. 4

Question Number : 70 Question Id : 6863407759 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 : 4 Wrong Marks : 1

निम्नलिखित में से कौन सा सही है

- A. दो सदिश को समान तब कहा जाता है यदि उनका अंतर शून्य है।
- B. गति एक सदिश राशि नहीं है।
- C. एक सदिश का दूसरे पर प्रक्षेपण डॉट का गुणन।
- D. फलन के परिवर्तन की अधिकतम स्थान दर जो लाइन फलन की बढ़ती हुई दिशा है, स्केलर फलन के प्रवणता के रूप में जाना जाता है।

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

- 1. केवल B और C
- 2. केवल A और C
- 3. केवल A और D
- 4. केवल B और D

Options :

- 68634030677. 1
- 68634030678. 2
- 68634030679. 3
- 68634030680. 4

Question Number : 71 Question Id : 6863407760 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 : 4 Wrong Marks : 1

The unit vectors orthogonal to the vector $-\hat{i}+2\hat{j}+2\hat{k}$ and making equal angles with the x and y axis is (are)

- 1. $\pm\frac{1}{3}(2\hat{i}+2\hat{j}-2\hat{k})$
- 2. $\pm\frac{1}{3}(\hat{i}+\hat{j}-\hat{k})$
- 3. $\pm\frac{1}{3}(2\hat{i}-2\hat{j}-2\hat{k})$
- 4. $\pm\frac{1}{3}(\hat{i}-2\hat{j}-2\hat{k})$

Options :

- 68634030681. 1
- 68634030682. 2
- 68634030683. 3
- 68634030684. 4

Question Number : 71 Question Id : 6863407760 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 : 4 Wrong Marks : 1

इकाई सदिश ,सदिश $-\hat{i}+2\hat{j}+2\hat{k}$ के लंबकोणीय x और y अक्षों के साथ समान कोण बनाता है (हैं)

1. $\pm\frac{1}{3}(2\hat{i}+2\hat{j}-2\hat{k})$

2. $\pm\frac{1}{3}(\hat{i}+\hat{j}-\hat{k})$

3. $\pm\frac{1}{3}(2\hat{i}-2\hat{j}-2\hat{k})$

4. $\pm\frac{1}{3}(\hat{i}-2\hat{j}-2\hat{k})$

Options :

- 68634030681. 1
- 68634030682. 2
- 68634030683. 3
- 68634030684. 4

Question Number : 72 Question Id : 6863407761 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 : 4 Wrong Marks : 1

Given below are two statements :

Statement I : The angle between the vectors $2\hat{i}+3\hat{j}+\hat{k}$ and $2\hat{i}-\hat{j}-\hat{k}$ is $\pi/2$

Statement II : The vector $\vec{a}\times(\vec{b}\times\vec{c})$ is coplanar with \vec{a} and \vec{b}

In the light of the above statements, choose the correct answer from the options given below :

- 1. Both Statement I and Statement II are true
- 2. Both Statement I and Statement II are false
- 3. Statement I is true but Statement II is false
- 4. Statement I is false but Statement II is true

Options :

- 68634030685. 1
- 68634030686. 2
- 68634030687. 3
- 68634030688. 4

Question Number : 72 Question Id : 6863407761 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 : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं:

कथन I : सदिश $2\hat{i}+3\hat{j}+\hat{k}$ और $2\hat{i}-\hat{j}-\hat{k}$ के बीच का कोण $\pi/2$ है।

कथन II : सदिश $\vec{a} \times (\vec{b} \times \vec{c})$, \vec{a} और \vec{b} के साथ समतलीय है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए

1. कथन I और कथन II दोनों सही है
2. कथन I और कथन II दोनों गलत है
3. कथन I सही है, लेकिन कथन II गलत है
4. कथन I गलत है, लेकिन कथन II सही है

Options :

68634030685. 1

68634030686. 2

68634030687. 3

68634030688. 4

Question Number : 73 Question Id : 6863407762 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 : 4 Wrong Marks : 1

If the unit vectors \vec{a} and \vec{b} are inclined at an angle 2θ such that $|\vec{a}-\vec{b}| < 1$ and $0 \leq \theta \leq \pi$, then θ lies in the interval.

1. $[0, \pi/2]$
2. $[5\pi/6, \pi]$
3. $[\pi/6, \pi/2]$
4. $[\pi/2, 5\pi/6]$

Options :

68634030689. 1

68634030690. 2

68634030691. 3

68634030692. 4

Question Number : 73 Question Id : 6863407762 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 : 4 Wrong Marks : 1

यदि इकाई सदिश \vec{a} और \vec{b} कोण 2θ इस प्रकार झुके लिए है कि $|\vec{a}-\vec{b}| < 1$ और $0 \leq \theta \leq \pi$, तो θ अंतराल में रहता है

1. $[0, \pi/2]$
2. $[5\pi/6, \pi]$
3. $[\pi/6, \pi/2]$
4. $[\pi/2, 5\pi/6]$

Options :

68634030689. 1
68634030690. 2
68634030691. 3
68634030692. 4

Question Number : 74 Question Id : 6863407763 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 : 4 Wrong Marks : 1

Each of the angle between vectors \vec{a} , \vec{b} and \vec{c} is equal to 60° . If $|\vec{a}|=4$, $|\vec{b}|=2$ and $|\vec{c}|=6$ then the modulus of $\vec{a}+\vec{b}+\vec{c}$ is

1. 10
2. 15
3. 12
4. 20

Options :

68634030693. 1
68634030694. 2
68634030695. 3
68634030696. 4

Question Number : 74 Question Id : 6863407763 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 : 4 Wrong Marks : 1

सदिश \vec{a} , \vec{b} और \vec{c} के बीच का प्रत्येक कोण 60° के बराबर है। यदि $|\vec{a}|=4, |\vec{b}|=2$ और $|\vec{c}|=6$, तो $\vec{a}+\vec{b}+\vec{c}$ का मापांक है

1. 10

2. 15

3. 12

4. 20

Options :

68634030693. 1

68634030694. 2

68634030695. 3

68634030696. 4

Question Number : 75 Question Id : 6863407764 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 : 4 Wrong Marks : 1

If $\vec{a} = 2\hat{i} + 2\hat{j} + 3\hat{k}$, $\vec{b} = -\hat{i} + 2\hat{j} + \hat{k}$ and $\vec{c} = 3\hat{i} + \hat{j}$ are such that $\vec{a} + \gamma\vec{b}$ is perpendicular to \vec{c} then determine the value of γ ?

1. 3

2. 0

3. 4

4. 8

Options :

68634030697. 1

68634030698. 2

68634030699. 3

68634030700. 4

Question Number : 75 Question Id : 6863407764 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 : 4 Wrong Marks : 1

यदि $\vec{a} = 2\hat{i} + 2\hat{j} + 3\hat{k}$, $\vec{b} = -\hat{i} + 2\hat{j} + \hat{k}$ और $\vec{c} = 3\hat{i} + \hat{j}$ इस तरह से हैं कि $\vec{a} + \gamma\vec{b}$, \vec{c} के लंबवत है तो γ का मान ज्ञात कीजिए?

1. 3
2. 0
3. 4
4. 8

Options :

68634030697. 1
68634030698. 2
68634030699. 3
68634030700. 4

Question Number : 76 Question Id : 6863407765 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 : 4 Wrong Marks : 1

Given below are two statements :

Statement I : The number of different number each of 6 digits that can be formed by using all the digits 1, 2, 1, 0, 2, 2 is 50.

Statement II : These are 4536 possibilities of writing the four digit numbers which have all distinct digits.

In the light of the above statements, choose the correct answer from the options given below :

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

68634030701. 1
68634030702. 2
68634030703. 3
68634030704. 4

Question Number : 76 Question Id : 6863407765 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 : 4 Wrong Marks : 1

नीचे दो कथन दिए गए हैं:

कथन I: सभी अंको 1,2,1,0,2,2 का उपयोग करके बनाई जा सकने वाली 6 अंको की अलग-अलग संख्याओं की संख्या 50 है।

कथन II: चार अंको की संख्याओं को लिखने की 4536 संभावनाएँ हैं, सभी अंक अलग-अलग हैं।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए

1. कथन I और कथन II दोनों सही है
2. कथन I और कथन II दोनों गलत है
3. कथन I सही है, लेकिन कथन II गलत है
4. कथन I गलत है, लेकिन कथन II सही है

Options :

68634030701. 1

68634030702. 2

68634030703. 3

68634030704. 4

Question Number : 77 Question Id : 6863407766 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 : 4 Wrong Marks : 1

A person goes in for an examination in which there are four papers with a maximum of m marks from each paper. The number of ways in which one can get $2m$ marks is

1. $\frac{1}{3}(m+1)(2m^2+4m+1)$
2. $\frac{1}{3}(m+1)(2m^2+4m+2)$
3. $\frac{1}{3}(m+1)(2m^2+4m+3)$
4. ${}^{2m+3}C_3$

Options :

68634030705. 1

68634030706. 2

68634030707. 3

68634030708. 4

Question Number : 77 Question Id : 6863407766 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 : 4 Wrong Marks : 1

एक व्यक्ति एक परीक्षा के लिए जाता है जिसमें प्रत्येक पेपर से अधिकतम m अंको के साथ चार पेपर होते हैं। तरीकों की संख्या जिसमें कोई $2m$ अंक प्राप्त कर सकता है।

1. $\frac{1}{3}(m+1)(2m^2 + 4m + 1)$

2. $\frac{1}{3}(m+1)(2m^2 + 4m + 2)$

3. $\frac{1}{3}(m+1)(2m^2 + 4m + 3)$

4. $^{2m+3}C_3$

Options :

68634030705. 1

68634030706. 2

68634030707. 3

68634030708. 4

Question Number : 78 Question Id : 6863407767 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 : 4 Wrong Marks : 1

If A, B and C are any three sets, then

A. $A - (B \cap C) = (A \cap B) - (A \cap C)$

B. $A - (B \cup C) = (A - B) \cap (A - C)$

C. $n(A - B) = n(A) - n(A \cap B)$

D. $A \cap (B - C) = (A \cap B) \cap (A - C)$

Choose the most appropriate answer from the options given below :

1. A, B, C only

2. B, C, D only

3. C, D only

4. B, C only

Options :

68634030709. 1

68634030710. 2

68634030711. 3

68634030712. 4

Question Number : 78 Question Id : 6863407767 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 : 4 Wrong Marks : 1

यदि A, B और C कोई तीन समुच्चय है, तो

- A. $A - (B \cap C) = (A \cap B) - (A \cap C)$
- B. $A - (B \cup C) = (A - B) \cap (A - C)$
- C. $n(A - B) = n(A) - n(A \cap B)$
- D. $A \cap (B - C) = (A \cap B) \cap (A - C)$

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

1. केवल A, B, C
2. केवल B, C, D
3. केवल C, D
4. केवल B, C

Options :

- 68634030709. 1
- 68634030710. 2
- 68634030711. 3
- 68634030712. 4

Question Number : 79 Question Id : 6863407768 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 : 4 Wrong Marks : 1

If each of n numbers $x_i = i$ is replaced by $(i + 1) x_i$, then the new mean is

1. $\frac{(n+1)(n+2)}{n}$
2. $n + 1$
3. $\frac{(n+1)(n+2)}{3}$
4. $\frac{(n+1)(5n+4)}{6}$

Options :

- 68634030713. 1
- 68634030714. 2
- 68634030715. 3
- 68634030716. 4

Question Number : 79 Question Id : 6863407768 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 : 4 Wrong Marks : 1

यदि प्रत्येक संख्या $x_i = i$ को $(i + 1) x_i$ से बदल दिया जाए तो नया माध्य है।

1. $\frac{(n+1)(n+2)}{n}$

2. $n + 1$

3. $\frac{(n+1)(n+2)}{3}$

4. $\frac{(n+1)(5n+4)}{6}$

Options :

68634030713. 1

68634030714. 2

68634030715. 3

68634030716. 4

Question Number : 80 Question Id : 6863407769 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 : 4 Wrong Marks : 1

The H.P. of two numbers is 4 and the arithmetic mean A and geometric mean G satisfy the relation $2A + G^2 = 27$, the numbers are

1. 6, 3

2. 5, 4

3. 5, -25

4. -3, 1

Options :

68634030717. 1

68634030718. 2

68634030719. 3

68634030720. 4

Question Number : 80 Question Id : 6863407769 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 : 4 Wrong Marks : 1

दो संख्याओं का H.P.(हरात्मक श्रेणी) 4 है और समान्तर माध्य A और गुणोत्तर माध्य G संबंध $2A + G^2 = 27$, को संतुष्ट करता है, संख्याएँ है

1. 6, 3

2. 5, 4

3. 5, -25

4. -3, 1

Options :

68634030717. 1

68634030718. 2

68634030719. 3

68634030720. 4

Question Number : 81 Question Id : 6863407770 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 : 4 Wrong Marks : 1

If every pair from among the equation $x^2 + px + qr = 0$, $x^2 + qx + rp = 0$ and $x^2 + rx + pq = 0$ has a common root, then the product of three common roots is _____.

1. pqr

2. $2pqr$

3. $p^2q^2r^2$

4. p^2qr^2

Options :

68634030721. 1

68634030722. 2

68634030723. 3

68634030724. 4

Question Number : 81 Question Id : 6863407770 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 : 4 Wrong Marks : 1

यदि समीकरण $x^2 + px + qr = 0$, $x^2 + qx + rp = 0$ और $x^2 + rx + pq = 0$ का प्रत्येक युग्म का a एक कॉमन मूल है। तो तीनों कॉमन मूलों का गुणनफल है _____.

1. pqr

2. $2pqr$

3. $p^2q^2r^2$

4. p^2qr^2

Options :

68634030721. 1

68634030722. 2

68634030723. 3

68634030724. 4

Question Number : 82 Question Id : 6863407771 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 : 4 Wrong Marks : 1

A. If A and B are two invertible matrices, then $(AB)^{-1} = A^{-1} B^{-1}$

B. Every skew-symmetric matrix of odd order is invertible

C. If A is non-singular matrix, then $(A^T)^{-1} = (A^{-1})^T$

D. If A is an involutory matrix, then $(I + A)(I - A) = 0$

E. A diagonal matrix is both an upper triangular and a lower triangular

Choose the correct answer from the options given below :

1. A, B, C, E only

2. B, D, E only

3. A, D, E only

4. C, D, E only

Options :

68634030725. 1

68634030726. 2

68634030727. 3

68634030728. 4

Question Number : 82 Question Id : 6863407771 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 : 4 Wrong Marks : 1

निम्नलिखित में से कौन से सही हैं?

- A. यदि A और B दो प्रतिलोम मैट्रिक्स हैं तो $(AB)^{-1} = A^{-1} B^{-1}$
- B. विषम क्रम का प्रत्येक तिरछा सममित मैट्रिक्स प्रतिलोम होता है।
- C. यदि A एक गैर व्युत्क्रमणीय मैट्रिक्स है, तो $(A^T)^{-1} = (A^{-1})^T$
- D. यदि A एक अनैच्छिक मैट्रिक्स है, तो $(I + A)(I - A) = 0$
- E. विकर्ण मैट्रिक्स एक ऊपरी त्रिकोणीय और एक निचला त्रिकोणीय दोनों है।

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

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

Options :

68634030725. 1

68634030726. 2

68634030727. 3

68634030728. 4

Question Number : 83 Question Id : 6863407772 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 : 4 Wrong Marks : 1

If x, y, z are all distinct and $\begin{vmatrix} x & x^2 & 1+x^3 \\ y & y^2 & 1+y^3 \\ z & z^2 & 1+z^3 \end{vmatrix} = 0$, then the value of xyz is

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

Options :

68634030729. 1
68634030730. 2
68634030731. 3
68634030732. 4

**Question Number : 83 Question Id : 6863407772 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 : 4 Wrong Marks : 1**

यदि x, y, z सभी अलग हैं और $\begin{vmatrix} x & x^2 & 1+x^3 \\ y & y^2 & 1+y^3 \\ z & z^2 & 1+z^3 \end{vmatrix} = 0$, तो xyz का मान है

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

Options :

68634030729. 1
68634030730. 2
68634030731. 3
68634030732. 4

**Question Number : 84 Question Id : 6863407773 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 : 4 Wrong Marks : 1**

Let $a = \cos \frac{2\pi}{7} + i \sin \frac{2\pi}{7}$, $\alpha = a + a^2 + a^4$ and $\beta = a^3 + a^5 + a^6$ then the equation whose root are α, β is

1. $x^2 + x + 2 = 0$
2. $x^2 + x - 2 = 0$
3. $x^2 - x - 2 = 0$
4. $x^2 - x + 2 = 0$

Options :

68634030733. 1
68634030734. 2
68634030735. 3
68634030736. 4

Question Number : 84 Question Id : 6863407773 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 : 4 Wrong Marks : 1

मान लीजिए $a = \cos \frac{2\pi}{7} + i \sin \frac{2\pi}{7}$, $\alpha = a + a^2 + a^4$ और $\beta = a^3 + a^5 + a^6$, तो समीकरण जिसके मूल α, β हैं

1. $x^2 + x + 2 = 0$

2. $x^2 + x - 2 = 0$

3. $x^2 - x - 2 = 0$

4. $x^2 - x + 2 = 0$

Options :

68634030733. 1

68634030734. 2

68634030735. 3

68634030736. 4

Question Number : 85 Question Id : 6863407774 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 : 4 Wrong Marks : 1

If A_1, A_2 be two AM's and G_1, G_2 be two GM's between a and b , then $\frac{A_1 + A_2}{G_1 G_2}$ is equal to

1. $\frac{a+b}{2ab}$

2. $\frac{2ab}{a+b}$

3. $\frac{a+b}{ab}$

4. $\frac{a+b}{\sqrt{ab}}$

Options :

68634030737. 1

68634030738. 2

68634030739. 3

68634030740. 4

Question Number : 85 Question Id : 6863407774 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 : 4 Wrong Marks : 1

अगर A_1, A_2 दो एम समान्तर माध्य (AM) और G_1, G_2 दो जीएम(GM) गुन्नोतर माध्य, a और b के बीच हो, तो $\frac{A_1+A_2}{G_1G_2}$ बराबर है

1. $\frac{a+b}{2ab}$

2. $\frac{2ab}{a+b}$

3. $\frac{a+b}{ab}$

4. $\frac{a+b}{\sqrt{ab}}$

Options :

68634030737. 1

68634030738. 2

68634030739. 3

68634030740. 4

Question Number : 86 Question Id : 6863407775 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 : 4 Wrong Marks : 1

If $f: R \rightarrow R$ defined as of $f(x) = x^2 + 1$ then minimum value of $f(x)$ is

1. 4

2. 3

3. 2

4. 1

Options :

68634030741. 1

68634030742. 2

68634030743. 3

68634030744. 4

Question Number : 86 Question Id : 6863407775 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 : 4 Wrong Marks : 1

यदि $f: R \rightarrow R$ को $f(x) = x^2 + 1$ द्वारा परिभाषित किया जाता है तो $f(x)$ का न्यूनतम मान है

1. 4

2. 3

3. 2

4. 1

Options :

68634030741. 1

68634030742. 2

68634030743. 3

68634030744. 4

Question Number : 87 Question Id : 6863407776 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 : 4 Wrong Marks : 1

A. If $(12 P)_3 = (123)_P$, then value of P is infeasible.

B. The simplified sum of product form of the Boolean expression is $(P + \bar{Q} + \bar{R}).(P + \bar{Q} + R).(P + Q + \bar{R})$ is $(P + \bar{Q}.\bar{R})$.

C. The minimum number of D flip - flops needed to design a mod(258) counter is 8.

Choose the correct answer from the options given below :

1. A only

2. A and B only

3. A and C only

4. C only

Options :

68634030745. 1

68634030746. 2

68634030747. 3

68634030748. 4

Question Number : 87 Question Id : 6863407776 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 : 4 Wrong Marks : 1

A. यदि $(12P)_3 = (123)_P$, तो P का मान असंभाव्य है।

B. बूलियन व्यंजक $(P+\bar{Q}+\bar{R}).(P+\bar{Q}+R).(P+Q+\bar{R})$ के गुणनफल का सरलीकृत योग $(P+\bar{Q}\bar{R})$ है।

C. मॉड (258) काउंटर को डिजाइन करने के लिए आवश्यक D-फ्लिप-फ्लॉप की न्यूनतम संख्या 8 है।

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

1. A केवल
2. केवल A और B
3. केवल A और C
4. केवल C

Options :

68634030745. 1

68634030746. 2

68634030747. 3

68634030748. 4

Question Number : 88 Question Id : 6863407777 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 : 4 Wrong Marks : 1

A RAM chip has a capacity of 1024 words of 8 bits each ($1k \times 8$). The number of 2×4 decoders with enable line needed to construct a $16k \times 16$ RAM from $1k \times 8$ RAM is _____.

1. 5
2. 4
3. 7
4. 6

Options :

68634030749. 1

68634030750. 2

68634030751. 3

68634030752. 4

Question Number : 88 Question Id : 6863407777 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 : 4 Wrong Marks : 1

एक RAM चिप में 8 bits ($1k \times 8$) के 1024 शब्दों की क्षमता होती है। सक्षम (enable) रेखाओं (line) के साथ 2×4 डिकोडर की संख्या $16k \times 16$ RAM से $1k \times 8$ RAM को बनाने के लिए आवश्यक _____ है।

1. 5

2. 4

3. 7

4. 6

Options :

68634030749. 1

68634030750. 2

68634030751. 3

68634030752. 4

Question Number : 89 Question Id : 6863407778 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 : 4 Wrong Marks : 1

A 32 bit wide main memory with a capacity of 1 GB is built using $256m \times 4$ bits DRAM chips. The number of rows memory cells in the DRAM chip is 2^{14} . The time taken to perform one refresh operation is 50 nanoseconds. The refresh period is 2 milli seconds. The percentage (rounded to the closest integer) of the time available for performing the memory read/write operations in the main memory unit is _____.

1. 56

2. 59

3. 54

4. 61

Options :

68634030753. 1

68634030754. 2

68634030755. 3

68634030756. 4

Question Number : 89 Question Id : 6863407778 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 : 4 Wrong Marks : 1

256 m × 4 bits DRAM चिप्स को उपयोग 1 जीबी की क्षमता वाली 32 बिट चौड़ी मुख्य मेमोरी बनाई गई है। DRAM चिप्स में मेमोरी सेल्स की पंक्तियों की संख्या होती 2^{14} है। एक रिफ्रेश ऑपरेशन को पूरा करने का समय 50 नैनोसेकंड है। रिफ्रेश अवधि 2 मिली सेकंड है। मुख्य मेमोरी रीड/राइट ऑपरेशन करने के लिए उपलब्ध समय का प्रतिशत (निकरटम पूर्णांक तक) _____ है।

1. 56
2. 59
3. 54
4. 61

Options :

- 68634030753. 1
- 68634030754. 2
- 68634030755. 3
- 68634030756. 4

Question Number : 90 Question Id : 6863407779 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 : 4 Wrong Marks : 1

Which of the following is a correct definition of volatile memory?

1. It does not retain its contents at high temperature
2. It is to be kept in air tight box
3. It loses its contents on failure of power supply
4. It does not lose its content on failure of power supply

Options :

- 68634030757. 1
- 68634030758. 2
- 68634030759. 3
- 68634030760. 4

Question Number : 90 Question Id : 6863407779 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 : 4 Wrong Marks : 1

वालेटाइल मेमोरी की निम्नलिखित में से सही वाख्या है?

1. यह अधिक तापमान पर अपनी सामग्री (डाटा) को बरकरार नहीं रखता है।
2. इसको हवा रोधक बक्से में रखा जाता है।
3. यह बिजली की आपूर्ति की विफलता पर अपनी सामग्री(डाटा) खो देता है।
4. यह बिजली की आपूर्ति की विफलता पर अपनी सामग्री(डाटा) को नहीं खोता है।

Options :

- 68634030757. 1
- 68634030758. 2
- 68634030759. 3
- 68634030760. 4

Question Number : 91 Question Id : 6863407780 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 : 4 Wrong Marks : 1

Consider the expression $(a - 1) * (((b + c) / 3) + d)$. Let x be the minimum number of registers required by an optimal code generation (without any register spill) algorithm for a load/store architecture, in which

- (i) Only load and store instructions can have memory operands and
- (ii) Arithmetic instructions can have only register or immediate operands. The value of x is _____.

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

Options :

- 68634030761. 1
- 68634030762. 2
- 68634030763. 3
- 68634030764. 4

Question Number : 91 Question Id : 6863407780 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 : 4 Wrong Marks : 1

व्यंजक $(a - 1) * (((b + c) / 3) + d)$. पर विचार करे। मान लीजिए x को लोड स्टोर अर्किटेक्टर के लिए सर्वोत्तम कोड जनरेशन (बिना किसी रजिस्टर कौशल के) एल्गोरिथम द्वारा आवश्यक रजिस्ट्रों की न्यूनतम संख्या दे जिसमें

(i) केवल लोड और स्टोर इंस्ट्रक्शन, मेमोरी ऑपरेड को रख सकते है।

(ii) अंकगणित इंस्ट्रक्शन मे केवल रजिस्टर या तत्काल ऑपरेड हो सकते है x का मान है

_____.

1. 2

2. 4

3. 1

4. 3

Options :

68634030761. 1

68634030762. 2

68634030763. 3

68634030764. 4

Question Number : 92 Question Id : 6863407781 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 : 4 Wrong Marks : 1

The number of possible Boolean functions that can be defined for n Boolean variables over n - valued Boolean algebra is _____.

1. n^{2^n}

2. 2^{n^2}

3. 2^{2^n}

4. n^{n^n}

Options :

68634030765. 1

68634030766. 2

68634030767. 3

68634030768. 4

Question Number : 92 Question Id : 6863407781 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 : 4 Wrong Marks : 1

संभावित बूलियन फलन का मान जिसे n - मान वाले बूलियन बीजगणित पर n बूलियन चर के लिए परिभाषित किया जा सकता है _____.

1. n^{2^n}

2. 2^{n^2}

3. 2^{2^n}

4. n^{n^n}

Options :

68634030765. 1

68634030766. 2

68634030767. 3

68634030768. 4

Question Number : 93 Question Id : 6863407782 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 : 4 Wrong Marks : 1

If w, x, y, z are Boolean variables, then which of the following is incorrect?

1. $wx + w(x + y) + x(x + y) = x + wy$

2. $\overline{w\bar{x}(y + \bar{z})} + \bar{w}x = \bar{w} + x + \bar{y}z$

3. $(w\bar{x}(y + x\bar{z}) + \bar{w}\bar{x})y = x\bar{y}$

4. $(w + y)(wxy + wyz) = wxy + wyz$

Options :

68634030769. 1

68634030770. 2

68634030771. 3

68634030772. 4

Question Number : 93 Question Id : 6863407782 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 : 4 Wrong Marks : 1

यदि w, x, y, z बूलियन है, तो निम्नलिखित में से कौन सा गलत है?

1. $wx + w(x + y) + x(x + y) = x + wy$

2. $\overline{wx}(y + \bar{z}) + \bar{w}x = \bar{w} + x + \bar{y}z$

3. $(\overline{wx}(y + x\bar{z}) + \bar{w}\bar{x})y = x\bar{y}$

4. $(w + y)(wxy + wyz) = wxy + wyz$

Options :

68634030769. 1

68634030770. 2

68634030771. 3

68634030772. 4

Question Number : 94 Question Id : 6863407783 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 : 4 Wrong Marks : 1

If \oplus and \odot denote the exclusive OR and exclusive NOR operations, respectively, then which one of the following is not correct?

1. $\overline{P \oplus Q} = P \odot Q$

2. $\bar{P} \oplus Q = P \odot Q$

3. $\bar{P} \oplus \bar{Q} = P \oplus Q$

4. $(P \oplus \bar{P}) + Q = (P \odot \bar{P}) \odot \bar{Q}$

Options :

68634030773. 1

68634030774. 2

68634030775. 3

68634030776. 4

Question Number : 94 Question Id : 6863407783 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 : 4 Wrong Marks : 1

यदि \oplus और \odot क्रमशः एक्ससकूजिव OR और एक्ससलूजित NOR ऑपरेशन को निरुचित करता है, तो निम्नलिखित में से कौन सही नहीं है?

1. $\overline{P \oplus Q} = P \odot Q$

2. $\overline{P} \oplus Q = P \odot Q$

3. $\overline{P} \oplus \overline{Q} = P \oplus Q$

4. $(P \oplus \overline{P}) + Q = (P \odot \overline{P}) \odot \overline{Q}$

Options :

68634030773. 1

68634030774. 2

68634030775. 3

68634030776. 4

Question Number : 95 Question Id : 6863407784 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 : 4 Wrong Marks : 1

If each observation of a Row data whose variance is σ^2 is multiplied by h , then the variance of the new set is

1. σ^2

2. $h^2 \sigma^2$

3. $h \sigma^2$

4. $h + \sigma^2$

Options :

68634030777. 1

68634030778. 2

68634030779. 3

68634030780. 4

Question Number : 95 Question Id : 6863407784 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 : 4 Wrong Marks : 1

यदि रो डेटा का प्रत्येक अवलोकन जिसका विचरण σ^2 को h से गुणा किया जाए तो नए सेट का विचरण है

1. σ^2
2. $h^2\sigma^2$
3. $h\sigma^2$
4. $h+\sigma^2$

Options :

- 68634030777. 1
- 68634030778. 2
- 68634030779. 3
- 68634030780. 4

Question Number : 96 Question Id : 6863407785 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 : 4 Wrong Marks : 1

The amount of time required to read a block of data from a disk into memory is composed of seek time, rotational latency and transfer time. Rotational latency refers to

1. the time its taken for the platter to make a full rotaion
2. the time its taken for the read-write head to more into possition over the appropriate track
3. the time it taken for the platter to rotate the correct sector under the head
4. to reduce number of bits in the field of instruction

Options :

- 68634030781. 1
- 68634030782. 2
- 68634030783. 3
- 68634030784. 4

Question Number : 96 Question Id : 6863407785 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 : 4 Wrong Marks : 1

डिस्क से मेमोरी में डेटा के एक ब्लॉक को पढ़ने के लिए आवश्यक समय में सीक टाइम आवर्ती और ट्रांसफर टाइम सम्मिलित होता है। आवर्ती लेटेंसी का तात्पर्य है

1. प्लैटर को एक पूर्ण घूर्णन करने में लगने वाला समय
2. सटीक ट्रेक में रीड-राइट हेड को सही स्थिति में लाने हेतु लगने वाला समय
3. प्लैटर को सटीक सेक्टर को हेड के नीचे लाने के लिए लगने वाला समय
4. इंस्ट्रक्शन में बिट्स की संख्या कम करने के लिए

Options :

68634030781. 1
 68634030782. 2
 68634030783. 3
 68634030784. 4

Question Number : 97 Question Id : 6863407786 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 : 4 Wrong Marks : 1

Match List I with List II

LIST I		LIST II	
A.	$ \vec{A} + \vec{B} = \vec{A} - \vec{B} $	I.	45°
B.	$ \vec{A} \times \vec{B} = \vec{A} \cdot \vec{B}$	II.	30°
C.	$ \vec{A} \cdot \vec{B} = \frac{AB}{2}$	III.	90°
D.	$ \vec{A} \times \vec{B} = \frac{AB}{2}$	IV.	60°

Choose the correct answer from the options given below:

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

Options :

68634030785. 1
 68634030786. 2
 68634030787. 3
 68634030788. 4

Question Number : 97 Question Id : 6863407786 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 : 4 Wrong Marks : 1

सूची I का सूची II से मिलान कीजिए

सूची I		सूची II	
A.	$ \vec{A} + \vec{B} = \vec{A} - \vec{B} $	I.	45°
B.	$ \vec{A} \times \vec{B} = \vec{A} \cdot \vec{B}$	II.	30°
C.	$ \vec{A} \cdot \vec{B} = \frac{AB}{2}$	III.	90°
D.	$ \vec{A} \times \vec{B} = \frac{AB}{2}$	IV.	60°

निम्नलिखित विकल्पों में से सही उत्तर का चयन कीजिए :

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

Options :

68634030785. 1
68634030786. 2
68634030787. 3
68634030788. 4

Question Number : 98 Question Id : 6863407787 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 : 4 Wrong Marks : 1

The number of 1's in the binary representation of $(3 * 4096 + 15 * 256 + 5 * 16 + 3)$ are

1. 8
2. 9
3. 10
4. 12

Options :

68634030789. 1
68634030790. 2
68634030791. 3

68634030792. 4

Question Number : 98 Question Id : 6863407787 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 : 4 Wrong Marks : 1

बाइनरी प्रतिनिधित्व $f(3 * 4096 + 15 * 256 + 5 * 16 + 3)$ में 1's की संख्या है

1. 8
2. 9
3. 10
4. 12

Options :

- 68634030789. 1
- 68634030790. 2
- 68634030791. 3
- 68634030792. 4

Question Number : 99 Question Id : 6863407788 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 : 4 Wrong Marks : 1

A 2's - complement adder - subtracter can add or subtract binary numbers. Sign-magnitude numbers represent _____ decimal numbers, and 2's complements stand for _____ decimal numbers.

1. hexa, sign
2. sign, hexa
3. positive, negative
4. negative, positive

Options :

- 68634030793. 1
- 68634030794. 2
- 68634030795. 3
- 68634030796. 4

Question Number : 99 Question Id : 6863407788 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 : 4 Wrong Marks : 1

एक 2's -पूरक योजक-घटाव बाइनरी संख्याओं को जोड़ या घटा सकता है। साइन परिणाम संख्याएं _____ दशमल संख्या का प्रतिनिधित्व करती है, और 2 के पूरक _____ दशमल संख्या के लिए होते हैं।

1. हेक्सा, साइन
2. साइन, हेक्सा
3. घनात्मक, ऋणात्मक
4. ऋणात्मक, घनात्मक

Options :

- 68634030793. 1
- 68634030794. 2
- 68634030795. 3
- 68634030796. 4

Question Number : 100 Question Id : 6863407789 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 : 4 Wrong Marks : 1

Given the following binary number in 32 - bit (single precision) IEEE-754 format :

00111110011011010000000000000000

The decimal value closest to this floating point number is

1. 1.45×10^1
2. 1.45×10^{-1}
3. 2.27×10^{-1}
4. 2.27×10^1

Options :

- 68634030797. 1
- 68634030798. 2
- 68634030799. 3
- 68634030800. 4

Question Number : 100 Question Id : 6863407789 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 : 4 Wrong Marks : 1

32 - बिट (एकल परिशुद्धता) IEEE-754 प्रारूप में निम्नलिखित बाइनरी संख्या को देखते हुए:

00111110011011010000000000000000

इस फ्लोटिंग-पॉइंट संख्या के निकटतम दशलमव मान है

1. 1.45×10^1

2. 1.45×10^{-1}

3. 2.27×10^{-1}

4. 2.27×10^1

Options :

68634030797. 1

68634030798. 2

68634030799. 3

68634030800. 4