

# National Testing Agency

<b>Question Paper Name :</b>	Atmospheric Science Eng 24th June 2023 Shift 3
<b>Subject Name :</b>	Atmospheric Science Eng
<b>Creation Date :</b>	2023-06-24 20:43:09
<b>Duration :</b>	120
<b>Total Marks :</b>	400
<b>Display Marks:</b>	Yes

## Atmospheric Science

<b>Group Number :</b>	1
<b>Group Id :</b>	920906242
<b>Group Maximum Duration :</b>	0
<b>Group Minimum Duration :</b>	120
<b>Show Attended Group? :</b>	No
<b>Edit Attended Group? :</b>	No
<b>Break time :</b>	0
<b>Group Marks :</b>	400
<b>Is this Group for Examiner? :</b>	No
<b>Examiner permission :</b>	Cant View
<b>Show Progress Bar? :</b>	No

## Part A

<b>Section Id :</b>	920906483
<b>Section Number :</b>	1
<b>Section type :</b>	Online
<b>Mandatory or Optional :</b>	Mandatory
<b>Number of Questions :</b>	21
<b>Number of Questions to be attempted :</b>	21
<b>Section Marks :</b>	100
<b>Enable Mark as Answered Mark for Review and Clear Response :</b>	Yes
<b>Maximum Instruction Time :</b>	0
<b>Sub-Section Number :</b>	1
<b>Sub-Section Id :</b>	920906786
<b>Question Shuffling Allowed :</b>	No
<b>Is Section Default? :</b>	null

**Question Id : 92090624398 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

Russia's prime minister signed a set of agreements with China on Wednesday during a trip to Beijing, describing bilateral ties at an unprecedented high, despite criticism of their relationship in the West as the war in Ukraine drags on.

Prime Minister Mikhail Mishustin, the highest-ranking Russian official to visit Beijing since Moscow sent thousands of troops to Ukraine in February 2022, held talks with Chinese President Xi Jinping and Premier Li Qiang.

With the war in Ukraine in its second year and Russia increasingly feeling the weight of Western sanctions, Moscow is leaning on Beijing for support, far more than China on Russia, feeding on Chinese demand for oil and gas.

The pressure from the West has shown no sign of easing, with the Group of Seven's weekend declarations singling both countries out on a series of issues including Ukraine. The G7 agreed to tighten sanctions against Moscow and urged China to press Russia to withdraw its forces from Ukraine.

**Sub questions**

**Question Number : 1 Question Id : 92090624399 Question Type : 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 : With the war in Ukraine in its third year and Russia increasingly feeling, the weight of western sanctions, Moscow is leaning on Beijing for support.

Statement II : The pressure from the West has shown no sign of easing, with the Group of Seven's weekend declarations singling both countries out on a series of issues including Ukraine.

In the light of the above statements, choose the correct 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 true but Statement II is incorrect
- (4) Statement I is false but Statement II is correct

**Options :**

- 92090696401. 1
- 92090696402. 2
- 92090696403. 3
- 92090696404. 4

**Question Number : 2 Question Id : 92090624400 Question Type : 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 one word substitution for the following phrase from the options given below.

'Never done or known before'

- |                   |                     |
|-------------------|---------------------|
| (1) Unprecedented | (2) Unpronounceable |
| (3) Unprotected   | (4) Unquiet         |

**Options :**

- 92090696405. 1
- 92090696406. 2
- 92090696407. 3
- 92090696408. 4

**Question Number : 3 Question Id : 92090624401 Question Type : 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**

Pact means:

- |                         |                                      |
|-------------------------|--------------------------------------|
| (1) Oral agreement      | (2) Coherent understanding           |
| (3) Written explanation | (4) Formal agreement between parties |

**Options :**

- 92090696409. 1
- 92090696410. 2
- 92090696411. 3
- 92090696412. 4

**Question Number : 4 Question Id : 92090624402 Question Type : 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**

Moscow is leaning on Beijing means:

- |                               |                                      |
|-------------------------------|--------------------------------------|
| (1) supporting Beijing        | (2) depending on Beijing             |
| (3) giving support to Beijing | (4) entered into a pact with Beijing |

**Options :**

- 92090696413. 1
- 92090696414. 2
- 92090696415. 3
- 92090696416. 4

**Question Number : 5 Question Id : 92090624403 Question Type : 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**

Pressure from West on Moscow has shown no sign of easing. The underlined phrase means:

- (1) Pressure is increasing.
- (2) Pressure is decreasing.
- (3) Pressure is continuing at the usual rate.
- (4) Pressure has become insignificant.

**Options :**

- 92090696417. 1
- 92090696418. 2
- 92090696419. 3
- 92090696420. 4

**Question Id : 92090624398 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



Russia's prime minister signed a set of agreements with China on Wednesday during a trip to Beijing, describing bilateral ties at an unprecedented high, despite criticism of their relationship in the West as the war in Ukraine drags on.

Prime Minister Mikhail Mishustin, the highest-ranking Russian official to visit Beijing since Moscow sent thousands of troops to Ukraine in February 2022, held talks with Chinese President Xi Jinping and Premier Li Qiang.

With the war in Ukraine in its second year and Russia increasingly feeling the weight of Western sanctions, Moscow is leaning on Beijing for support, far more than China on Russia, feeding on Chinese demand for oil and gas.

The pressure from the West has shown no sign of easing, with the Group of Seven's weekend declarations singling both countries out on a series of issues including Ukraine. The G7 agreed to tighten sanctions against Moscow and urged China to press Russia to withdraw its forces from Ukraine.

### Sub questions

**Question Number : 1 Question Id : 92090624399 Question Type : 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 : With the war in Ukraine in its third year and Russia increasingly feeling, the weight of western sanctions, Moscow is leaning on Beijing for support.

Statement II : The pressure from the West has shown no sign of easing, with the Group of Seven's weekend declarations singling both countries out on a series of issues including Ukraine.

In the light of the above statements, choose the correct 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 true but Statement II is incorrect
- (4) Statement I is false but Statement II is correct

### Options :

92090696401. 1
92090696402. 2
92090696403. 3
92090696404. 4

**Question Number : 2 Question Id : 92090624400 Question Type : 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 one word substitution for the following phrase from the options given below.

'Never done or known before'

- |                   |                     |
|-------------------|---------------------|
| (1) Unprecedented | (2) Unpronounceable |
| (3) Unprotected   | (4) Unquiet         |

**Options :**

- 92090696405. 1
- 92090696406. 2
- 92090696407. 3
- 92090696408. 4

**Question Number : 3 Question Id : 92090624401 Question Type : 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**

Pact means:

- |                         |                                      |
|-------------------------|--------------------------------------|
| (1) Oral agreement      | (2) Coherent understanding           |
| (3) Written explanation | (4) Formal agreement between parties |

**Options :**

- 92090696409. 1
- 92090696410. 2
- 92090696411. 3
- 92090696412. 4

**Question Number : 4 Question Id : 92090624402 Question Type : 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**

Moscow is leaning on Beijing means:

- |                               |                                      |
|-------------------------------|--------------------------------------|
| (1) supporting Beijing        | (2) depending on Beijing             |
| (3) giving support to Beijing | (4) entered into a pact with Beijing |

**Options :**

- 92090696413. 1
- 92090696414. 2
- 92090696415. 3

92090696416. 4

**Question Number : 5 Question Id : 92090624403 Question Type : 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**

Pressure from West on Moscow has shown no sign of easing. The underlined phrase means:

- (1) Pressure is increasing.
- (2) Pressure is decreasing.
- (3) Pressure is continuing at the usual rate.
- (4) Pressure has become insignificant.

**Options :**

- 92090696417. 1
- 92090696418. 2
- 92090696419. 3
- 92090696420. 4

<b>Sub-Section Number :</b>	2
<b>Sub-Section Id :</b>	920906787
<b>Question Shuffling Allowed :</b>	Yes
<b>Is Section Default? :</b>	null

**Question Number : 6 Question Id : 92090624404 Question Type : 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 correct preposition to complete the following sentence:

I infer \_\_\_\_\_ your statement that you are not willing to attend the conference;

- (1) from
- (2) with
- (3) across
- (4) to

**Options :**

- 92090696421. 1
- 92090696422. 2
- 92090696423. 3
- 92090696424. 4

**Question Number : 6 Question Id : 92090624404 Question Type : 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 correct preposition to complete the following sentence:

I infer \_\_\_\_\_ your statement that you are not willing to attend the conference;

- |            |          |
|------------|----------|
| (1) from   | (2) with |
| (3) across | (4) to   |

**Options :**

- 92090696421. 1
- 92090696422. 2
- 92090696423. 3
- 92090696424. 4

**Question Number : 7 Question Id : 92090624405 Question Type : 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 correct spelt word out of the given alternatives:

- |              |             |
|--------------|-------------|
| (1) Puerille | (2) Puerile |
| (3) Puerrile | (4) Purrile |

**Options :**

- 92090696425. 1
- 92090696426. 2
- 92090696427. 3
- 92090696428. 4

**Question Number : 7 Question Id : 92090624405 Question Type : 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 correct spelt word out of the given alternatives:

- |              |             |
|--------------|-------------|
| (1) Puerille | (2) Puerile |
| (3) Puerrile | (4) Purrile |

**Options :**

- 92090696425. 1
- 92090696426. 2
- 92090696427. 3
- 92090696428. 4

**Question Number : 8 Question Id : 92090624406 Question Type : 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 one word for the following sentence:

The plants and vegetation of a certain region.

- |            |                |
|------------|----------------|
| (1) flora  | (2) fauna      |
| (3) forest | (4) vegetation |

**Options :**

- 92090696429. 1
- 92090696430. 2
- 92090696431. 3
- 92090696432. 4

**Question Number : 8 Question Id : 92090624406 Question Type : 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 one word for the following sentence:

The plants and vegetation of a certain region.

- |            |                |
|------------|----------------|
| (1) flora  | (2) fauna      |
| (3) forest | (4) vegetation |

**Options :**

- 92090696429. 1
- 92090696430. 2
- 92090696431. 3
- 92090696432. 4

**Question Number : 9 Question Id : 92090624407 Question Type : 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 correct sentence.

- (1) I asked Anita if she had done all sums.
- (2) I ask Anita if she do all sums.
- (3) I asking Anita if she had done all sums.
- (4) I asked Anita if she done all sums.

**Options :**

- 92090696433. 1
- 92090696434. 2
- 92090696435. 3
- 92090696436. 4

**Question Number : 9 Question Id : 92090624407 Question Type : 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 correct sentence.

- (1) I asked Anita if she had done all sums.
- (2) I ask Anita if she do all sums.
- (3) I asking Anita if she had done all sums.
- (4) I asked Anita if she done all sums.

**Options :**

- 92090696433. 1
- 92090696434. 2
- 92090696435. 3
- 92090696436. 4

**Question Number : 10 Question Id : 92090624408 Question Type : 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 correct passive form of the following sentence.

Do you imitate others?

- (1) Have others been imitated by you?
- (2) Have others being imitated by you?
- (3) Are others imitating you?
- (4) Are others imitated by you?



**Options :**

- 92090696437. 1
- 92090696438. 2
- 92090696439. 3
- 92090696440. 4

**Question Number : 10 Question Id : 92090624408 Question Type : 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 correct passive form of the following sentence.

Do you imitate others?

- (1) Have others been imitated by you?
- (2) Have others being imitated by you?
- (3) Are others imitating you?
- (4) Are others imitated by you?

**Options :**

- 92090696437. 1
- 92090696438. 2
- 92090696439. 3
- 92090696440. 4

**Question Number : 11 Question Id : 92090624409 Question Type : 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 Union Ministry of India launched 'Temple 360' portal?

- (1) Ministry of Tourism
- (2) Ministry of Culture
- (3) Ministry of Housing and Urban Affairs
- (4) Ministry of Home Affairs

**Options :**

- 92090696441. 1
- 92090696442. 2
- 92090696443. 3
- 92090696444. 4

**Question Number : 11 Question Id : 92090624409 Question Type : 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 Union Ministry of India launched 'Temple 360' portal?

- (1) Ministry of Tourism
- (2) Ministry of Culture
- (3) Ministry of Housing and Urban Affairs
- (4) Ministry of Home Affairs

**Options :**

- 92090696441. 1
- 92090696442. 2
- 92090696443. 3
- 92090696444. 4

**Question Number : 12 Question Id : 92090624410 Question Type : 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**

'Guidance' is the investment promotion agency of which Indian state?

- (1) Tamilnadu
- (2) Gujarat
- (3) Kerala
- (4) Delhi

**Options :**

- 92090696445. 1
- 92090696446. 2
- 92090696447. 3
- 92090696448. 4

**Question Number : 12 Question Id : 92090624410 Question Type : 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**

'Guidance' is the investment promotion agency of which Indian state?

- (1) Tamilnadu
- (2) Gujarat
- (3) Kerala
- (4) Delhi

**Options :**

- 92090696445. 1

92090696446. 2

92090696447. 3

92090696448. 4

**Question Number : 13 Question Id : 92090624411 Question Type : 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 among the following is not a Noble Price winner?

(1) Ravindranath Tegore

(2) Dr. C.V. Raman

(3) Amritaya Sen

(4) Homi Jahangir Bhabha

**Options :**

92090696449. 1

92090696450. 2

92090696451. 3

92090696452. 4

**Question Number : 13 Question Id : 92090624411 Question Type : 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 among the following is not a Noble Price winner?

(1) Ravindranath Tegore

(2) Dr. C.V. Raman

(3) Amritaya Sen

(4) Homi Jahangir Bhabha

**Options :**

92090696449. 1

92090696450. 2

92090696451. 3

92090696452. 4

**Question Number : 14 Question Id : 92090624412 Question Type : 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 country is not the member of 'G 20'?

- |           |            |
|-----------|------------|
| (1) India | (2) Nepal  |
| (3) China | (4) U.S.A. |

**Options :**

- 92090696453. 1
- 92090696454. 2
- 92090696455. 3
- 92090696456. 4

**Question Number : 14 Question Id : 92090624412 Question Type : 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 country is not the member of 'G 20'?

- |           |            |
|-----------|------------|
| (1) India | (2) Nepal  |
| (3) China | (4) U.S.A. |

**Options :**

- 92090696453. 1
- 92090696454. 2
- 92090696455. 3
- 92090696456. 4

**Question Number : 15 Question Id : 92090624413 Question Type : 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 (Dance Form)	List II (Artist)
(A) Bharat Natyam	(I) Sonal Mansingh
(B) Kathak	(II) Rukmini Devi
(C) Kuchipudi	(III) Birju Maharaj
(D) Odissi	(IV) Yamini Reddy

Choose the correct answer from the options given below:

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

**Options :**

92090696457. 1  
92090696458. 2  
92090696459. 3  
92090696460. 4

**Question Number : 15 Question Id : 92090624413 Question Type : 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 (Dance Form)	List II (Artist)
(A) Bharat Natyam	(I) Sonal Mansingh
(B) Kathak	(II) Rukmini Devi
(C) Kuchipudi	(III) Birju Maharaj
(D) Odissi	(IV) Yamini Reddy

Choose the correct answer from the options given below:

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

**Options :**

- 92090696457. 1
- 92090696458. 2
- 92090696459. 3
- 92090696460. 4

**Question Number : 16 Question Id : 92090624414 Question Type : 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**

In a certain code BROTHER is written as EQRSKDU. How is RECENT written in that code:

- |            |            |
|------------|------------|
| (1) UHFHQW | (2) QDBDMS |
| (3) UDFDQS | (4) UDGDRS |

**Options :**

- 92090696461. 1
- 92090696462. 2
- 92090696463. 3
- 92090696464. 4

**Question Number : 16 Question Id : 92090624414 Question Type : 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**

In a certain code BROTHER is written as EQRSKDU. How is RECENT written in that code:

- |            |            |
|------------|------------|
| (1) UHFHQW | (2) QDBDMS |
| (3) UDFDQS | (4) UDGDRS |

**Options :**

- 92090696461. 1
- 92090696462. 2
- 92090696463. 3
- 92090696464. 4

**Question Number : 17 Question Id : 92090624415 Question Type : 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 word which is least like others in the group:

- |             |                |
|-------------|----------------|
| (1) Bat     | (2) Artic Term |
| (3) Ostrich | (4) Penguin    |

**Options :**

- 92090696465. 1
- 92090696466. 2
- 92090696467. 3
- 92090696468. 4

**Question Number : 17 Question Id : 92090624415 Question Type : 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 word which is least like others in the group:

- |             |                |
|-------------|----------------|
| (1) Bat     | (2) Artic Term |
| (3) Ostrich | (4) Penguin    |

**Options :**

- 92090696465. 1
- 92090696466. 2
- 92090696467. 3
- 92090696468. 4

**Question Number : 18 Question Id : 92090624416 Question Type : 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**

Six friends Astha, Bina, Chetna, Devika, Eshita and Falguni are sitting in a row facing towards North. Chetna is not sitting beside Devika who is sitting on the extreme right. Eshita is between Astha and Chetna. Astha is not sitting beside Falguni and Devika. Bina is between Falguni and Devika. Who is the immediate right of Astha?

- |            |             |
|------------|-------------|
| (1) Bina   | (2) Chetna  |
| (3) Eshita | (4) Falguni |

**Options :**

- 92090696469. 1
- 92090696470. 2
- 92090696471. 3
- 92090696472. 4

**Question Number : 18 Question Id : 92090624416 Question Type : 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**

Six friends Astha, Bina, Chetna, Devika, Eshita and Falguni are sitting in a row facing towards North. Chetna is not sitting beside Devika who is sitting on the extreme right. Eshita is between Astha and Chetna. Astha is not sitting beside Falguni and Devika. Bina is between Falguni and Devika. Who is the immediate right of Astha?

- |            |             |
|------------|-------------|
| (1) Bina   | (2) Chetna  |
| (3) Eshita | (4) Falguni |

**Options :**

- 92090696469. 1
- 92090696470. 2
- 92090696471. 3
- 92090696472. 4

**Question Number : 19 Question Id : 92090624417 Question Type : 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**

Look at the series: 1296, 648, 216, 108, 36, .....

Which one of the following numbers should come next in the series?

- |        |        |
|--------|--------|
| (1) 18 | (2) 16 |
| (3) 14 | (4) 12 |

**Options :**

- 92090696473. 1
- 92090696474. 2
- 92090696475. 3
- 92090696476. 4

**Question Number : 19 Question Id : 92090624417 Question Type : 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**

Look at the series: 1296, 648, 216, 108, 36, .....

Which one of the following numbers should come next in the series?

- (1) 18 (2) 16  
(3) 14 (4) 12

**Options :**

92090696473. 1  
92090696474. 2  
92090696475. 3  
92090696476. 4

**Question Number : 20 Question Id : 92090624418 Question Type : 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**

In a row of students, the position of Vijay from the left side of the row is 16<sup>th</sup> and the position of Vijay from the right side of the row is 28<sup>th</sup>. Find the total number of students in the row?

- (1) 42 (2) 43  
(3) 44 (4) 45

**Options :**

92090696477. 1  
92090696478. 2  
92090696479. 3  
92090696480. 4

**Question Number : 20 Question Id : 92090624418 Question Type : 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**

In a row of students, the position of Vijay from the left side of the row is 16<sup>th</sup> and the position of Vijay from the right side of the row is 28<sup>th</sup>. Find the total number of students in the row?

- (1) 42 (2) 43  
(3) 44 (4) 45

**Options :**

92090696477. 1  
92090696478. 2

92090696479. 3

92090696480. 4

**Question Number : 21 Question Id : 92090624419 Question Type : 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 train 220 m long in moving at 54 km/h. Time taken by it to cross a person running in the same direction with speed of 18 km/h is:

(1) 30 s

(2) 20 s

(3) 25 s

(4) 22 s

**Options :**

92090696481. 1

92090696482. 2

92090696483. 3

92090696484. 4

**Question Number : 21 Question Id : 92090624419 Question Type : 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 train 220 m long in moving at 54 km/h. Time taken by it to cross a person running in the same direction with speed of 18 km/h is:

(1) 30 s

(2) 20 s

(3) 25 s

(4) 22 s

**Options :**

92090696481. 1

92090696482. 2

92090696483. 3

92090696484. 4

**Question Number : 22 Question Id : 92090624420 Question Type : 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 the such rate of Interest, the ratio of amount for one year under simple interest and for two years under compound interest compounded annually is 3:4. Find the rate of interest:

(1)  $16\frac{2}{3}$  %

(2) 20 %

(3)  $33\frac{1}{3}$  %

(4) 30 %

**Options :**

92090696485. 1

92090696486. 2

92090696487. 3

92090696488. 4

**Question Number : 22 Question Id : 92090624420 Question Type : 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 the such rate of Interest, the ratio of amount for one year under simple interest and for two years under compound interest compounded annually is 3:4. Find the rate of interest:

(1)  $16\frac{2}{3}$  %

(2) 20 %

(3)  $33\frac{1}{3}$  %

(4) 30 %

**Options :**

92090696485. 1

92090696486. 2

92090696487. 3

92090696488. 4

**Question Number : 23 Question Id : 92090624421 Question Type : 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**

$A$  and  $B$  are the independent events such that  $P(A \cup B) = \frac{7}{10}$  and  $P(B) = \frac{5}{8}$ . Then  $P(A)$  is equal to:

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

**Options :**

92090696489. 1  
92090696490. 2  
92090696491. 3  
92090696492. 4

**Question Number : 23 Question Id : 92090624421 Question Type : 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**

$A$  and  $B$  are the independent events such that  $P(A \cup B) = \frac{7}{10}$  and  $P(B) = \frac{5}{8}$ . Then  $P(A)$  is equal to:

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

**Options :**

92090696489. 1  
92090696490. 2  
92090696491. 3  
92090696492. 4

**Question Number : 24 Question Id : 92090624422 Question Type : 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  $3x+4y = 60$  and  $4x+3y = 59$ , then the value of  $x+y$  is:

- (1) 17 (2) 15  
(3) 16 (4) 18

**Options :**



- 92090696493. 1
- 92090696494. 2
- 92090696495. 3
- 92090696496. 4

**Question Number : 24 Question Id : 92090624422 Question Type : 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  $3x+4y = 60$  and  $4x+3y = 59$ , then the value of  $x+y$  is:

- (1) 17
- (2) 15
- (3) 16
- (4) 18

**Options :**

- 92090696493. 1
- 92090696494. 2
- 92090696495. 3
- 92090696496. 4

**Question Number : 25 Question Id : 92090624423 Question Type : 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 sphere of maximum possible size is made out of a solid wooden cylinder of height equal to its diameter of the base. The percentage of the wastage of the wood in the process is:

- (1)  $100/3$  %
- (2)  $80/3$  %
- (3)  $70/3$  %
- (4) 30 %

**Options :**

- 92090696497. 1
- 92090696498. 2
- 92090696499. 3
- 92090696500. 4

**Question Number : 25 Question Id : 92090624423 Question Type : 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.	Transverse nature of light	I.	Wave nature of light
B.	Interference	II.	Dispersion
C.	Prism	III.	Scattering
D.	Blue appearance of sky	IV.	Polarization

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

**Options :**

92090696501. 1  
92090696502. 2  
92090696503. 3  
92090696504. 4

**Question Number : 26 Question Id : 92090624424 Question Type : 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. प्रकाश की अनुप्रस्थ प्रकृति | I. प्रकाश की तरंग प्रकृति |
| B. व्यतिकरण                    | II. परिक्षेपण             |
| C. प्रिज्म                     | III. प्रकीर्ण             |
| D. आकाश की नीला दिखाना         | IV. ध्रुवीकरण             |

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

**Options :**

92090696501. 1  
92090696502. 2  
92090696503. 3  
92090696504. 4

**Question Number : 27 Question Id : 92090624425 Question Type : 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 (Material)		LIST II (Property /Application)	
A.	Fe <sub>2</sub> O <sub>3</sub>	I.	Superconductor
B.	Nb	II.	Ferromagnetic
C.	Silicon	III.	Dielectric
D.	KTaNbO <sub>3</sub>	IV.	Solar Cell

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

**Options :**

92090696505. 1  
92090696506. 2  
92090696507. 3  
92090696508. 4

**Question Number : 27 Question Id : 92090624425 Question Type : 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 (वस्तु) सूची II (चरित्र/उपयोग)

- A. Fe<sub>2</sub>O<sub>3</sub> I. अतिचालक  
B. Nb II. फेरो चुम्बकीय  
C. सिलिकॉन III. परावैद्युत (डाइइलेक्ट्रिक)  
D. KTaNbO<sub>3</sub> IV. सौर सेल

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

**Options :**

92090696505. 1  
92090696506. 2  
92090696507. 3  
92090696508. 4

**Question Number : 28 Question Id : 92090624426 Question Type : 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**

Arrange the following in terms of their electrical conductivity in decreasing order (at room temperature)

- A. Copper
- B. Metallic Sodium
- C. p-type Silicon
- D. Diamond

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

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

**Options :**

- 92090696509. 1
- 92090696510. 2
- 92090696511. 3
- 92090696512. 4

**Question Number : 28 Question Id : 92090624426 Question Type : 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 दिए गए वस्तुओं को उनकी वैधुत चालकता (कमरे के तापमान पर ) के घटते क्रम व्यवस्थित कीजिए

- A. तांबा
- B. धात्विक सोडियम
- C. पी (p)-प्रकार का सिलिकॉन
- D. हीरा( डाइमंड )

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

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

**Options :**

- 92090696509. 1
- 92090696510. 2
- 92090696511. 3
- 92090696512. 4

**Question Number : 29 Question Id : 92090624427 Question Type : 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** : In a photoelectric effect experiment, the change in frequency of incident light changes the stopping potential.

**Reasons R** : Electromagnetic waves carry momentum.

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 and **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 :**

- 92090696513. 1
- 92090696514. 2
- 92090696515. 3
- 92090696516. 4

**Question Number : 29 Question Id : 92090624427 Question Type : 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: एक प्रकाशवैद्युत प्रभाव परिक्षण में, आपतित प्रकाश की आवृत्ति में परिवर्तन रुकावट विभव को परिवर्तित करता है।

कारण R: विद्युत चुम्बकीय तरंग में संवेग 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 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 :**

- 92090696513. 1
- 92090696514. 2
- 92090696515. 3
- 92090696516. 4



Question Number : 30 Question Id : 92090624428 Question Type : 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** : Nuclear fission and fusion processes are possible source of clean energy.

**Reasons R** : Binding energy per nucleon increases in the product elements post fission or fusion reactions.

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 and **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 :**

92090696517. 1

92090696518. 2

92090696519. 3

92090696520. 4

Question Number : 30 Question Id : 92090624428 Question Type : 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: नाभिकीय विखंडन और संलयन की प्रक्रियाये स्वच्छ ऊर्जा के संभावित स्रोत है।  
कारण R: उत्पाद तत्व में प्रत्येक नाभिक की बन्धन ऊर्जा विखंडन और संलयन के बाद बढ़ती 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 हैं
2. A और R दोनों सही हैं और R, A की सही व्याख्या नहीं हैं
3. A सही है लेकिन R सही नहीं है
4. A सही नहीं है लेकिन R सही है

**Options :**

92090696517. 1

92090696518. 2

92090696519. 3

92090696520. 4

**Question Number : 31 Question Id : 92090624429 Question Type : 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 heat engine takes 200J of heat from the hot reservoir and delivers 120J of heat to the cold reservoir in a cycle. The efficiency of the engine is -

1. 0.8
2. 0.4
3. 0.2
4. 0.1

**Options :**

92090696521. 1

92090696522. 2

92090696523. 3

92090696524. 4

**Question Number : 31 Question Id : 92090624429 Question Type : 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 उष्मा इंजन एक गर्म भंडार से 200J ताप लेता है और एक चक्र में शीत भंडार में 120J ताप छोड़ता है। इंजन की कार्यक्षमता कितनी है

1. 0.8
2. 0.4
3. 0.2
4. 0.1

**Options :**

92090696521. 1

92090696522. 2

92090696523. 3

92090696524. 4

**Question Number : 32 Question Id : 92090624430 Question Type : 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 quantities remain constant in an elliptical planetary motion as seen from the sun?

1. Angular speed
2. Kinetic energy
3. Angular momentum
4. Speed

**Options :**

92090696525. 1  
92090696526. 2  
92090696527. 3  
92090696528. 4

**Question Number : 32 Question Id : 92090624430 Question Type : 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**

सूर्य से देखे जाने पर एक दीर्घवृत्तीय ग्रह गति में निम्नलिखित में से किसकी मात्रा समान रहती है?

1. कोणीय गति
2. गतिज (काइनेटिक) उर्जा
3. कोणीय संवेग
4. गति

**Options :**

92090696525. 1  
92090696526. 2  
92090696527. 3  
92090696528. 4

**Question Number : 33 Question Id : 92090624431 Question Type : 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 body is suspended from a spring balance kept in a satellite. The reading of the balance is  $W_1$  when the satellite goes in an orbit of radius  $R$  and is  $W_2$  when it goes in an orbit of radius  $2R$ . Which of the following is true ?

1.  $W_1 = W_2$
2.  $W_1 < W_2$
3.  $W_1 > W_2$
4.  $W_1 \neq W_2$

**Options :**

92090696529. 1  
92090696530. 2  
92090696531. 3  
92090696532. 4

**Question Number : 33 Question Id : 92090624431 Question Type : 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 उपग्रह में रखे एक स्प्रिंग तुला से एक वस्तु लटकी है। उपग्रह के एक त्रिज्या  $R$  के कक्ष में जाने पर तुला पर अंकित रीडिंग  $w_1$  होता है और जब यह  $2R$  त्रिज्या में जाता है तब अंकित रीडिंग  $w_2$  हो जाती है। निम्न में से कौन सही होगा?

1.  $w_1 = w_2$
2.  $w_1 < w_2$
3.  $w_1 > w_2$
4.  $w_1 \neq w_2$

**Options :**

92090696529. 1  
92090696530. 2  
92090696531. 3  
92090696532. 4

**Question Number : 34 Question Id : 92090624432 Question Type : 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 sitting in a chair in a satellite feels weightless because -

1. The person is not accelerated
2. The earth does not attract the objects in a satellite
3. The normal force by the chair as on the person balances the earth's attraction
4. The normal force is zero

**Options :**

92090696533. 1  
92090696534. 2  
92090696535. 3  
92090696536. 4

**Question Number : 34 Question Id : 92090624432 Question Type : 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 उपग्रह में एक कुर्सी पर बैठे हुए एक व्यक्ति को भारहीनता का अनुभव होता है क्यों कि

1. वह व्यक्ति त्वरित नहीं है
2. एक उपग्रह में रखी वस्तुओं को पृथ्वी आकर्षित नहीं करती
3. कुर्सी द्वारा व्यक्ति पर लगाया गया सामान्य बल पृथ्वी के आकर्षण को बराबर कर देता है
4. सामान्य बल शून्य है

**Options :**

92090696533. 1  
92090696534. 2  
92090696535. 3  
92090696536. 4

**Question Number : 35 Question Id : 92090624433 Question Type : 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**

Confirmations about quantization of the energy level of atoms are obtained from

1. Photoelectric effect
2. Franck - Hertz experiment
3. Stern - Gerlach experiment
4. X-ray diffraction experiment

**Options :**

92090696537. 1  
92090696538. 2  
92090696539. 3  
92090696540. 4

**Question Number : 35 Question Id : 92090624433 Question Type : 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 परमाणु के ऊर्जा स्तर के बारे में परिमाण की पृष्टि किससे प्राप्त की जा सकती है

1. प्रकाश वैद्युत प्रभाव
2. फ्रैंक-हर्ट्ज प्रयोग
3. स्टर्न-गार्लक प्रयोग
4. एक्स किरण विवर्तन

**Options :**



92090696537. 1

92090696538. 2

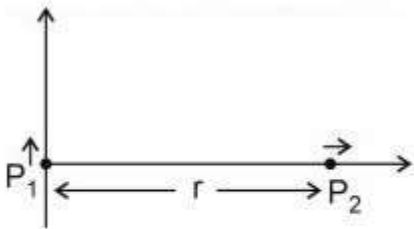
92090696539. 3

92090696540. 4

**Question Number : 36 Question Id : 92090624434 Question Type : 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 two electric dipoles  $\vec{P}_1$  and  $\vec{P}_2$  that are oriented perpendicular to one another and separated by distance  $r$ .



Because of the electric field produced by  $\vec{P}_1$  dipole,  $\vec{P}_2$  would experience

1. Force only
2. Torque only
3. Force and Torque
4. Neither force nor torque

**Options :**

92090696541. 1

92090696542. 2

92090696543. 3

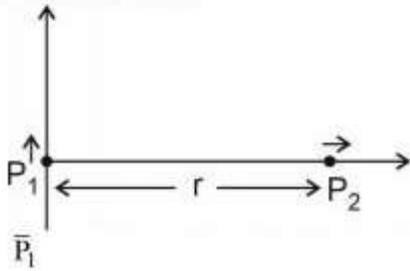
92090696544. 4

**Question Number : 36 Question Id : 92090624434 Question Type : 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 वैद्युत डाइपोल (द्विध्रुव)  $\vec{P}_1$  और  $\vec{P}_2$ , एक दूसरे के अनुलम्ब रूप से रखे गये हो और एक दूरी  $r$  से असंग रखे है



द्वारा उत्पन्न विद्युत क्षेत्र के कारण,  $P_2$  डाइपॉल में किसका अनुभव होगा?

1. केवल बल
2. केवल आघूर्ण बल
3. बल और आघूर्ण बल
4. न तो बल और न ही आघूर्ण बल

**Options :**

92090696541. 1

92090696542. 2

92090696543. 3

92090696544. 4

**Question Number : 37 Question Id : 92090624435 Question Type : 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**

Compressibility is defined as the reciprocal of -

1. Shear modulus
2. Bulk modulus
3. Young's modulus
4. Poisson ratio

**Options :**

92090696545. 1

92090696546. 2

92090696547. 3

92090696548. 4

**Question Number : 37 Question Id : 92090624435 Question Type : 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**

संपीडन को किसके अन्योन्य के रूप में परिभाषित किया जा सकता है?

1. शियर मॉड्युलस
2. बल्क मॉड्युलस
3. यंग मॉड्युलस
4. पॉइसन अनुपात

**Options :**

92090696545. 1  
92090696546. 2  
92090696547. 3  
92090696548. 4

**Question Number : 38 Question Id : 92090624436 Question Type : 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 :** Oscillating electric dipoles are possible sources of electromagnetic radiation.

**Statement II :** X-ray can be generated by bombarding high energy charged particles onto metals.

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 :**

92090696549. 1  
92090696550. 2  
92090696551. 3  
92090696552. 4

**Question Number : 38 Question Id : 92090624436 Question Type : 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: दोलायमान विद्युत डाइपोल, विद्युत चुम्बकीय विकिरण के संभावित स्रोत है।

कथन II: X-किरणों को, एक धातु पर उच्च उर्जा आवेशित कणों की बमबारी से उत्पन्न किया जा सकता 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 हैं
2. कथन I और कथन II दोनों गलत हैं
3. कथन I सही हैं, लेकिन कथन II गलत हैं
4. कथन I सही नहीं हैं, लेकिन कथन II सही हैं

**Options :**

92090696549. 1

92090696550. 2

92090696551. 3

92090696552. 4

**Question Number : 39 Question Id : 92090624437 Question Type : 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 :** In the limit of large quantum numbers, the results obtained from quantum mechanics tend to become the same as those arrived at from classical physics.

**Statement II :** No two electrons can be in the same quantum state.

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 :**

92090696553. 1

92090696554. 2

92090696555. 3

92090696556. 4

**Question Number : 39 Question Id : 92090624437 Question Type : 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: बड़ी क्वान्टम संख्याओं की सीमा में, क्वान्टम यांत्रिक से प्राप्त परिणाम वैसे ही रहने की प्रकृति रखते हैं जैसे की जो क्लासिकल भौतिक से आते हैं।

कथन II: दो इलेक्ट्रान एक ही क्वान्टम अवस्था में नहीं हो सकते 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 हैं
2. कथन I और कथन II दोनों सही नहीं हैं
3. कथन I सही हैं, लेकिन कथन II गलत हैं
4. कथन I गलत हैं, लेकिन कथन II सही हैं

**Options :**

92090696553. 1

92090696554. 2

92090696555. 3

92090696556. 4

**Question Number : 40 Question Id : 92090624438 Question Type : 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 correct Maxwell's equation(s). Symbols have their usual meaning.

A.  $\nabla \cdot \vec{E} = \frac{\rho}{\epsilon_0}$

B.  $\nabla \cdot \vec{B} = 0$

C.  $\nabla \times \vec{E} = -\frac{\partial \vec{B}}{\partial t}$

D.  $\nabla \cdot \vec{B} = \mu \cdot \vec{J} + \frac{1}{c^2} \frac{\partial \vec{E}}{\partial t}$

Choose the most appropriate **answer** from the options given below :

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

**Options :**

92090696557. 1

92090696558. 2

92090696559. 3

92090696560. 4

**Question Number : 40 Question Id : 92090624438 Question Type : 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**

सही मैक्सवेल समीकरण चुनिए। निचे दिये गये चिन्ह सामान्य अर्थ वाले

A.  $\nabla \cdot \vec{E} = \frac{\rho}{\epsilon_0}$

B.  $\nabla \cdot \vec{B} = 0$

C.  $\nabla \times \vec{E} = -\frac{\partial \vec{B}}{\partial t}$

D.  $\nabla \cdot \vec{B} = \mu_0 \vec{J} + \frac{1}{c^2} \frac{\partial \vec{E}}{\partial t}$

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

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

**Options :**

92090696557. 1

92090696558. 2

92090696559. 3

92090696560. 4

**Question Number : 41 Question Id : 92090624439 Question Type : 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 paratrooper and his parachute weight 50 kg. At the instant parachute open, he is travelling vertically downward at a speed of 20 meter per second. The air resistance varies directly as the instantaneous velocity and it is 20 Newton when the velocity is 10 meter per second. Obtain the differential equation of the motion of the paratrooper.

1.  $\frac{25}{2} \frac{dv}{dt} - \frac{1V}{g} = 25$

2.  $\frac{5}{g} \frac{dv}{dt} + 2 = 5$

3.  $\frac{25}{g} \frac{dv}{dt} + \frac{1V}{g} = 25$

4.  $\frac{25}{g} \frac{dV}{dt} + \frac{2V}{g} = 25$

**Options :**

92090696561. 1

92090696562. 2

92090696563. 3

92090696564. 4

**Question Number : 41 Question Id : 92090624439 Question Type : 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 छाता धारी और उसके पैराशूट का भार 50 kg है। पैराशूट के खुलने पर वह 20 मी. प्रति सेकेंड की गति से रास्ते पर नीचे आ रहा है। वायु प्रतिरोध, एक तत्काल वेग के समानुरूप बदलता रहता है और यह 20 न्यूटन है जब वेग 10 मी प्रति सेकेन्ड हैं। छाताधारी की गति के लिए डिफरेंशियल समीकरण क्या है।

$$1. \frac{25}{g} \frac{dv}{dt} - \frac{1V}{g} = 25$$

$$2. \frac{5}{g} \frac{dv}{dt} + 2 = 5$$

$$3. \frac{25}{g} \frac{dv}{dt} + \frac{1V}{g} = 25$$

$$4. \frac{25}{g} \frac{dV}{dt} + \frac{2V}{g} = 25$$

**Options :**

92090696561. 1

92090696562. 2

92090696563. 3

92090696564. 4

**Question Number : 42 Question Id : 92090624440 Question Type : 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 differential equation  $\frac{d^2y}{dx^2} + 6\frac{dy}{dx} + 25y = 0$  with initial

condition  $y(0) = 0$ . Then the general solution of differential equation is -

$$1. e^{-3x} [A \cos 4x + B \sin 4x]$$

$$2. Ae^{-4x} \sin 3x$$

$$3. e^{-4x} (A \cos 3x + b \sin 3x)$$

$$4. Be^{-3x} \sin 4x$$

**Options :**

92090696565. 1

92090696566. 2

92090696567. 3

Question Number : 42 Question Id : 92090624440 Question Type : 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

प्रारंभ दशा  $y(0) = 0$  वाली एक अवकलन समीकरण  $\frac{d^2y}{dx^2} + 6\frac{dy}{dx} + 25y = 0$  को समझें। अंतर समीकरण का सामान्य समाधान क्या होगा?

1.  $e^{-3x} [A \cos 4x + B \sin 4x]$
2.  $Ae^{-4x} \sin 3x$
3.  $e^{-4x} (A \cos 3x + b \sin 3x)$
4.  $Be^{-3x} \sin 4x$

Options :

92090696565. 1  
92090696566. 2  
92090696567. 3  
92090696568. 4

Question Number : 43 Question Id : 92090624441 Question Type : 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 matrix  $\begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$  does not have any real eigenvalues.

**Reasons R** : The matrix  $\begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$  is skew symmetric.

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 and **R** is **NOT** the correct explanation of **A**
3. **A** is true but **R** is not false
4. **A** is false but **R** is true

Options :

92090696569. 1  
92090696570. 2  
92090696571. 3  
92090696572. 4

**Question Number : 43 Question Id : 92090624441 Question Type : 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: मैट्रिक्स  $\begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$  का कोई वास्तविक एइन (EIGN) मान नहीं होता।

कारण R: मैट्रिक्स  $\begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$  एक स्क्वू सममित 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 हैं
2. A और R दोनों सही हैं और R, A की सही व्याख्या नहीं हैं
3. A सही है लेकिन R सही नहीं है
4. A गलत है लेकिन R सही है

**Options :**

92090696569. 1  
92090696570. 2  
92090696571. 3  
92090696572. 4

**Question Number : 44 Question Id : 92090624442 Question Type : 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 matrix A is both symmetric as well as skew symmetric, then which of the following is true?

- A. A is a diagonal matrix
- B. A is the zero matrix
- C. A is a square matrix
- D. A is the identity matrix

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

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

**Options :**

92090696573. 1

92090696574. 2

92090696575. 3

92090696576. 4

**Question Number : 44 Question Id : 92090624442 Question Type : 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 मैट्रिक्स A सममित (सिमेट्रिक) और स्क्यू-सममित दोनों रूपों में है तब निम्नलिखित में से कौन सा सत्य है?

- A. A एक विकर्ण मैट्रिक्स है
- B. A एक शून्य मैट्रिक्स है
- C. A एक वर्ग मैट्रिक्स है
- D. A एक पहचान मैट्रिक्स है

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

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

**Options :**

92090696573. 1

92090696574. 2

92090696575. 3

92090696576. 4

**Question Number : 45 Question Id : 92090624443 Question Type : 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 and B are two matrices such that  $BA = A$  and  $AB = B$  then  $A^2 + B^2 =$

\_\_\_\_\_.

1.  $2AB$
2.  $2BA$
3.  $AB$
4.  $A + B$

**Options :**

92090696577. 1

92090696578. 2

92090696579. 3

92090696580. 4

**Question Number : 45 Question Id : 92090624443 Question Type : 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 और B दो मैट्रिक्स इस प्रकार हैं कि  $BA = A$  और  $AB = B$ , तब  $A^2 + B^2 =$  \_\_\_\_\_.

1.  $2AB$
2.  $2BA$
3.  $AB$
4.  $A + B$

**Options :**

92090696577. 1

92090696578. 2

92090696579. 3

92090696580. 4

**Question Number : 46 Question Id : 92090624444 Question Type : 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  $a, b, c$  are in A. P., then value of  $\begin{vmatrix} 2y+4 & 5y+7 & 8y+a \\ 3y+5 & 6y+8 & 9y+b \\ 4y+6 & 7y+9 & 10y+c \end{vmatrix}$  is -

1.  $a + c + 2b$
2.  $a + b + c$
3. 0
4.  $2a + b + c$

**Options :**

92090696581. 1  
92090696582. 2  
92090696583. 3  
92090696584. 4

**Question Number : 46 Question Id : 92090624444 Question Type : 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  $a, b, c$  एक A. P. में हैं,

तब  $\begin{vmatrix} 2y+4 & 5y+7 & 8y+a \\ 3y+5 & 6y+8 & 9y+b \\ 4y+6 & 7y+9 & 10y+c \end{vmatrix}$  का मान किसके बराबर है।

1.  $a + c + 2b$
2.  $a + b + c$
3. 0
4.  $2a + b + c$

**Options :**

92090696581. 1  
92090696582. 2  
92090696583. 3  
92090696584. 4

**Question Number : 47 Question Id : 92090624445 Question Type : 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 system of following linear equations have non zero solution.

$$x + 4ay + az = 0$$

$$x + 3by + bz = 0$$

$$x + 2cy + cz = 0$$

then  $a, b, c$  are in

1. A P
2. G P
3. H P
4. A G P

**Options :**

92090696585. 1

92090696586. 2

92090696587. 3

92090696588. 4

**Question Number : 47 Question Id : 92090624445 Question Type : 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 निम्नलिखित रेखीय समीकरणों

$$x + 4ay + az = 0$$

$$x + 3by + bz = 0$$

$$x + 2cy + cz = 0$$

का समाधान गैर शून्य है तब  $a, b, c$  किसमें हैं

1. A P
2. G P
3. H P
4. A G P

**Options :**

92090696585. 1

92090696586. 2

92090696587. 3

92090696588. 4

**Question Number : 48 Question Id : 92090624446 Question Type : 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 the expression for the convolution theorem?

1.  $L^{-1}[F(s).G(s)] = \int_{-\infty}^{\infty} f(u)g(t-u)du$
2.  $L^{-1}[F(s).G(s)] = \int_0^t f(u)g(t-u)du$
3.  $L^{-1}[F(s).G(s)] = \int_0^{\infty} f(u)g(t-u)du$
4.  $L^{-1}[F(s).G(s)] = \int_0^t f(u)g(u)du$

**Options :**

- 92090696589. 1
- 92090696590. 2
- 92090696591. 3
- 92090696592. 4

**Question Number : 48 Question Id : 92090624446 Question Type : 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 सी अभिव्यक्ति संवलित (कुंडलीकरण) सिद्धांत की है?

1.  $L^{-1}[F(s).G(s)] = \int_{-\infty}^{\infty} f(u)g(t-u)du$
2.  $L^{-1}[F(s).G(s)] = \int_0^t f(u)g(t-u)du$
3.  $L^{-1}[F(s).G(s)] = \int_0^{\infty} f(u)g(t-u)du$
4.  $L^{-1}[F(s).G(s)] = \int_0^t f(u)g(u)du$

**Options :**

- 92090696589. 1
- 92090696590. 2
- 92090696591. 3
- 92090696592. 4

Question Number : 49 Question Id : 92090624447 Question Type : 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 (Function)		LIST II (Laplace Transform)	
A.	$t$	I.	$\frac{1}{S - \omega}$
B.	$\cos h (wt)$	II.	$\frac{S}{S^2 - \omega^2}$
C.	$\cos (wt)$	III.	$\frac{1}{S^2}$
D.	$e^{wt}$	IV.	$\frac{S}{S^2 + \omega^2}$

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

Options :

92090696593. 1  
92090696594. 2  
92090696595. 3  
92090696596. 4

Question Number : 49 Question Id : 92090624447 Question Type : 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

(फलन)

A.  $t$

B.  $\cos h (wt)$

C.  $\cos (wt)$

D.  $e^{wt}$

सूची II

(लप्लेस रूपांतर)

I.  $\frac{1}{S-\omega}$

II.  $\frac{S}{S^2-\omega^2}$

III.  $\frac{1}{S^2}$

IV.  $\frac{S}{S^2+\omega^2}$

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

**Options :**

92090696593. 1

92090696594. 2

92090696595. 3

92090696596. 4

**Question Number : 50 Question Id : 92090624448 Question Type : 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 inverse laplace transform of  $\log (s^2 + 1)$  is equal to -

1.  $2 \sin (t)$

2.  $-2 \frac{\sin(t)}{t}$

3.  $2 \frac{\cos(t)}{t}$

4.  $-2 \frac{\cos(t)}{t}$

**Options :**

92090696597. 1

92090696598. 2

92090696599. 3

92090696600. 4

**Question Number : 50 Question Id : 92090624448 Question Type : 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**

$\log (s^2 + 1)$  का इन्वर्स (विलोम) लाप्लेस ट्रांसफार्म (रूपांतर) का किसके बराबर है ?

1.  $2 \sin (t)$
2.  $-2 \frac{\sin(t)}{t}$
3.  $2 \frac{\cos(t)}{t}$
4.  $-2 \frac{\cos(t)}{t}$

**Options :**

92090696597. 1  
92090696598. 2  
92090696599. 3  
92090696600. 4

**Question Number : 51 Question Id : 92090624449 Question Type : 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  $|Z_1| = |Z_2| = |Z_3| = 1$  and  $Z_1 + Z_2 + Z_3 = 0$  then,  $Z_1, Z_2, Z_3$  are vertices of

1. An equilateral Triangle
2. An isosceles Triangle
3. A right angled Triangle
4. Scalene Triangle

**Options :**

92090696601. 1  
92090696602. 2  
92090696603. 3  
92090696604. 4

**Question Number : 51 Question Id : 92090624449 Question Type : 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  $|Z_1| = |Z_2| = |Z_3| = 1$  और  $Z_1 + Z_2 + Z_3 = 0$  है तब,  $Z_1, Z_2, Z_3$  किसके कोने हैं

1. एक समभुज त्रिकोण
2. एक आइसोसल्स त्रिकोण
3. एक समकोणीय त्रिकोण
4. स्केलन त्रिकोण

**Options :**

92090696601. 1  
92090696602. 2  
92090696603. 3  
92090696604. 4

**Question Number : 52 Question Id : 92090624450 Question Type : 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 the polar form representation of the complex conjugate of  $z = 1 - i$ ?

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

**Options :**

92090696605. 1  
92090696606. 2  
92090696607. 3  
92090696608. 4

**Question Number : 52 Question Id : 92090624450 Question Type : 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  $z = 1 - i$  के कॉम्प्लेक्स कॉंजुगेट (संयुग्म) का ध्रुवीय रूप निरूपण है

1.  $e^{i\frac{\pi}{4}}$

2.  $e^{-i\frac{\pi}{4}}$

3.  $\sqrt{2} e^{i\frac{\pi}{4}}$

4.  $\sqrt{2} e^{-i\frac{\pi}{4}}$

**Options :**

92090696605. 1

92090696606. 2

92090696607. 3

92090696608. 4

**Question Number : 53 Question Id : 92090624451 Question Type : 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  $f(x)$  an even function and its Fourier series

is  $f(x) = a_0 + \sum_{n=1}^{\infty} a_n \cos \frac{n\pi}{L} x$  then the coefficient  $a_n$  is equal to :

1.  $a_n = \frac{1}{L} \int_0^L f(x) \cos \frac{n\pi x}{L} dx$

2.  $a_n = \frac{1}{L} \int_0^{\infty} f(x) \cos \frac{n\pi x}{L} dx$

3.  $a_n = \frac{2}{L} \int_0^L f(x) \cos \frac{n\pi x}{L} dx$

4.  $a_n = \frac{2}{L} \int_{-L}^L f(x) \cos \frac{n\pi x}{L} dx$

**Options :**

92090696609. 1

92090696610. 2

92090696611. 3

92090696612. 4

**Question Number : 53 Question Id : 92090624451 Question Type : 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  $f(x)$  एक सम फलन है और इसकी फोरियर कड़ी  $f(x) = a_0 + \sum_{n=1}^{\infty} a_n \cos \frac{n\pi}{L} x$  है तब गुणांक  $a_n$  किसके बराबर है :

1.  $a_n = \frac{1}{L} \int_0^L f(x) \cos \frac{n\pi x}{L} dx$

2.  $a_n = \frac{1}{L} \int_0^{\infty} f(x) \cos \frac{n\pi x}{L} dx$

3.  $a_n = \frac{2}{L} \int_0^L f(x) \cos \frac{n\pi x}{L} dx$

4.  $a_n = \frac{2}{L} \int_{-L}^L f(x) \cos \frac{n\pi x}{L} dx$

**Options :**

92090696609. 1

92090696610. 2

92090696611. 3

92090696612. 4

**Question Number : 54 Question Id : 92090624452 Question Type : 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 focus of the parabola  $10y = x^2 - 2x + 1$  is at the point

1.  $\left(0, \frac{5}{2}\right)$
2.  $\left(\frac{5}{2}, 0\right)$
3.  $\left(1, \frac{5}{2}\right)$
4.  $\left(\frac{5}{2}, 1\right)$

**Options :**

92090696613. 1  
92090696614. 2  
92090696615. 3  
92090696616. 4

**Question Number : 54 Question Id : 92090624452 Question Type : 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**

पैराबोल  $10y = x^2 - 2x + 1$  का फोकस किस बिन्दु पर है?

1.  $\left(0, \frac{5}{2}\right)$
2.  $\left(\frac{5}{2}, 0\right)$
3.  $\left(1, \frac{5}{2}\right)$
4.  $\left(\frac{5}{2}, 1\right)$

**Options :**

92090696613. 1  
92090696614. 2  
92090696615. 3  
92090696616. 4

**Question Number : 55 Question Id : 92090624453 Question Type : 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 class of 50 students has 40, 30 and 25 students who know atleast English, French and German respectively. There are 20 students who know both English and French , and 15 students who know both French and German. Assume that each student knows atleast one language among English, French and German. How many students know only German and English, but not French?

1. 5
2. 10
3. 15
4. 20

**Options :**

92090696617. 1  
92090696618. 2  
92090696619. 3  
92090696620. 4

**Question Number : 55 Question Id : 92090624453 Question Type : 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**

50 छात्रो वाली एक कक्षा में 40,30 और 25 छात्र ऐ से हैं जो कि क्रमशः अंग्रेजी, फ्रांसिसी और जर्मन जानते हैं। 20 छात्र ऐसे है जो कि अंग्रेजी और फ्रांसिसी दोनों जानते है, और 15 छात्र फ्रांसिसी और जर्मन जानते हैं। यह मानते हुए कि अंग्रेजी, फ्रांसिसी और जर्मन मे से प्रत्येक छात्र एक भाषा तो जानता ही है, तब ऐसे कितने छात्र है जो कि केवल जर्मन और अंग्रेजी जानते है परन्तु फ्रांसिसी नहीं जानते?

1. 5
2. 10
3. 15
4. 20

**Options :**

92090696617. 1  
92090696618. 2  
92090696619. 3  
92090696620. 4

**Question Number : 56 Question Id : 92090624454 Question Type : 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**

Arrange the following in order of general procedure (first step to last step) for hypothesis testing.

- A. Choose an adequate test statistic, decide which values are critical for the hypothesis & find the sample distribution under the null hypothesis.
- B. Choose a significance level  $\alpha$ , for example, 0.05
- C. Compute the p-value and conclude if the hypothesis should be rejected ( $\alpha \geq p$  - value) or not ( $\alpha < p$  - value).
- D. Define the null hypothesis and the alternative hypothesis such that it answers the scientific question of interest.
- E. Translate the conclusion (rejection or not) from the test to a conclusion regarding the scientific question of interest.

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

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

**Options :**

92090696621. 1  
92090696622. 2  
92090696623. 3  
92090696624. 4

**Question Number : 56 Question Id : 92090624454 Question Type : 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**

परिकल्पना परीक्षण के लिए सामान्य प्रक्रिया के क्रम (प्रथम चरण से अंतिम चरण तक) को व्यवस्थित कीजिए

- पर्याप्त मात्रा में परीक्षण सांखिक को चुनिए, इसका निर्णय लिजिए कि कौन सा मान, परिकल्पना के लिए क्रांतिक है और नल (शून्य) परिकल्पना के अंतर्गत नमूने के वितरण को पहचाने
- महत्वपूर्ण स्तर  $\alpha$  को चुनिए, उदाहरण के लिए 0.05
- p- मान का आंकलन किजिए और यह निष्कर्ष निकालिए कि परिकल्पना के अस्वीकार ( $\alpha \geq p$  - मान) करना चाहिए या नहीं ( $\alpha < p$  - मान) करना चाहिए
- नल परिकल्पना को परिभाषित कीजिए और उस वैकल्पिक परिकल्पना को मानिए जो कि वांछित वैज्ञानिक प्रश्न का उत्तर दे
- परीक्षण के निष्कर्ष (स्वीकार करे या न करे) को वैज्ञानिक प्रश्न के वांछित समाधानवाले निष्कर्ष निकाल लिजिए

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

- B, D, C, A, E
- A, B, C, D, E
- B, D, A, C, E
- D, B, C, A, E

**Options :**

92090696621. 1
92090696622. 2
92090696623. 3
92090696624. 4

**Question Number : 57 Question Id : 92090624455 Question Type : 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**

In an experiment of tossing a fair coin 4 times independently, choose the correct order of following events in descending order of their probabilities.

- The number of heads is 2
- The number of heads is odd
- The number of heads is 4
- The number of heads is prime

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

- D, B, C, A
- A, D, B, C
- D, A, B, C
- D, B, A, C

**Options :**

92090696625. 1
92090696626. 2



92090696627. 3

92090696628. 4

**Question Number : 57 Question Id : 92090624455 Question Type : 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 स्पष्ट सिक्के को स्वतंत्र रूप से 4 बार उछालने के एक प्रयोग में निम्नलिखित घटनाओं को उनके अवरोही (घटते क्रम) क्रम में घटित होने की संभावनाओं को व्यवस्थित कीजिए।

- A. हैड (शिर्ष) की संख्या 2 हैं
- B. हैड की संख्या विषम हैं
- C. हैड (शिर्ष) की संख्या 4 हैं
- D. हैड की संख्या (प्राइम) अभाज्य हैं

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

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

**Options :**

92090696625. 1

92090696626. 2

92090696627. 3

92090696628. 4

**Question Number : 58 Question Id : 92090624456 Question Type : 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 mean of observation  $x$ ,  $x + 3$ ,  $x + 5$ ,  $x + 7$  and  $x + 10$  is 11, then the mean of last three observation is -

- 1.  $12\frac{1}{3}$
- 2.  $12\frac{2}{3}$
- 3.  $14\frac{2}{3}$
- 4.  $13\frac{1}{3}$

**Options :**

- 92090696629. 1
- 92090696630. 2
- 92090696631. 3
- 92090696632. 4

**Question Number : 58 Question Id : 92090624456 Question Type : 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 दिए गए पर्यवेक्षणों  $x, x+3, x+5, x+7$  और  $x+10$ , का माध्य 11(ग्यारह) है, तब अन्तिम तीन पर्यवेक्षणों का माध्य क्या होगा?

- 1.  $12\frac{1}{3}$
- 2.  $12\frac{2}{3}$
- 3.  $14\frac{2}{3}$
- 4.  $13\frac{1}{3}$

**Options :**

- 92090696629. 1
- 92090696630. 2
- 92090696631. 3
- 92090696632. 4

**Question Number : 59 Question Id : 92090624457 Question Type : 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 NOT an assumption of the simple linear regression model ( $y = \alpha + \beta x + e$ ) ?

- 1. Distribution of  $e$  at any particular  $x$  value has mean 0.
- 2. Distribution of  $e$  at any particular  $x$  value is normal
- 3. Random deviation  $e_1, e_2, \dots, e_n$  associated with different observation are dependent on each other
- 4. Standard deviation of  $e$  is the same for any particular value of  $x$

**Options :**

92090696633. 1  
92090696634. 2  
92090696635. 3  
92090696636. 4

**Question Number : 59 Question Id : 92090624457 Question Type : 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 एक, साधारण रेखीय प्रतिगमन मॉडल ( $y = \alpha + \beta x + e$ ) का अनुमान नहीं है?

1. किसी विशेष  $x$  मान पर  $e$  का वितरण का माध्य शून्य होता है
2. किसी विशेष  $x$  मान पर  $e$  के वितरण सामान्य होता है
3. विभिन्न पर्यवेक्षणों से सन्बन्धित यादृच्छिक विचलन  $e_1, e_2, \dots, e_n$  एक दूसरे पर निर्भर होते हैं
4.  $e$  का मानक विचलन  $x$  के किसी भी विशिष्ट मान के लिए वही रहता है

**Options :**

92090696633. 1  
92090696634. 2  
92090696635. 3  
92090696636. 4

**Question Number : 60 Question Id : 92090624458 Question Type : 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 arithmetic mean of  $n$  numbers of a series is  $\bar{X}$ . The sum of first  $(n-1)$  numbers is  $k$ . The  $n$ th number is -

1.  $\frac{1}{n}\bar{X} - k$
2.  $\frac{n}{2}\bar{X} - k$
3.  $n\bar{X} - k$
4.  $\frac{2}{n}\bar{X} - k$

**Options :**

92090696637. 1  
92090696638. 2  
92090696639. 3

92090696640. 4

**Question Number : 60 Question Id : 92090624458 Question Type : 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 कडी के  $n$  संख्याओं का समांतर माध्य  $\bar{X}$  है। प्रथम  $(n-1)$  संख्याओं का योग  $k$  है तब  $n$  वीं संख्या कौन सी है -

1.  $\frac{1}{n}\bar{X} - k$
2.  $\frac{n}{2}\bar{X} - k$
3.  $n\bar{X} - k$
4.  $\frac{2}{n}\bar{X} - k$

**Options :**

92090696637. 1  
92090696638. 2  
92090696639. 3  
92090696640. 4

**Question Number : 61 Question Id : 92090624459 Question Type : 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**

Mean absolute deviations of the series  $a, a + d, a + 2d, \dots, a + 2nd$  from its mean is ?

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

**Options :**

92090696641. 1  
92090696642. 2  
92090696643. 3  
92090696644. 4

**Question Number : 61 Question Id : 92090624459 Question Type : 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**

$a, a + d, a + 2d, \dots, a + 2nd$  श्रृंखला का इसके माध्य से शुद्ध माध्य विचलन कैसे लिखा जाएगा ?

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

2.  $\frac{nd}{2n+1}$

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

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

**Options :**

92090696641. 1

92090696642. 2

92090696643. 3

92090696644. 4

**Question Number : 62 Question Id : 92090624460 Question Type : 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**

Goodness of fit of a distribution can be tested by -

1. t - test

2. F- test

3. Chi - square test

4. Z - test

**Options :**

92090696645. 1

92090696646. 2

92090696647. 3

92090696648. 4

**Question Number : 62 Question Id : 92090624460 Question Type : 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 वितरण के फिट का गुडनेस किसके द्वारा परीक्षण किया जा सकता है

1. टी-परीक्षण
2. एफ-परीक्षण
3. कार्स्वर्ग-परीक्षण (कार्स् स्क्वयर परीक्षण)
4. जैड-परीक्षण

**Options :**

92090696645. 1

92090696646. 2

92090696647. 3

92090696648. 4

**Question Number : 63 Question Id : 92090624461 Question Type : 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 statemens :

**Statement I :** Mean and standard deviation are called descriptive statistics and are used to support hypotheses

**Statement II :** Regression and Analysis of variance are called analytic statistics and are used as final steps in editing and characterising study participants

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 :**

92090696649. 1

92090696650. 2

92090696651. 3

92090696652. 4

**Question Number : 63 Question Id : 92090624461 Question Type : 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: माध्य और मानक विचलन को वर्णात्मक सांख्यिकी कहा जाता है और इसका उपयोग परिकल्पना के समर्थन के लिए किया जाता है।

कथन II: प्रतिगमन और प्रसरण के विश्लेषण को विश्लेषक सांख्यिक कहा जाता है और इसका उपयोग सहभागियों की विशेषता और संपादन को समझने के लिए अंतिम चरण के तौर पर किया जाता 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 हैं
2. कथन I और कथन II दोनों सही नहीं हैं
3. कथन I सही हैं, लेकिन कथन II गलत हैं
4. कथन I गलत हैं, लेकिन कथन II सही हैं

**Options :**

92090696649. 1  
92090696650. 2  
92090696651. 3  
92090696652. 4

**Question Number : 64 Question Id : 92090624462 Question Type : 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** : Statistical methods are necessary in pollution science as it is impossible to characterize all properties of the environment everywhere all of the time.

**Reasons R** : Statistics such as means, standard deviation and confidence interval provide summary of properties or characteristics of the environment.

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 and **R** is **NOT** the correct explanation of **A**
3. **A** is true but **R** is not false
4. **A** is false but **R** is true

**Options :**

92090696653. 1  
92090696654. 2  
92090696655. 3  
92090696656. 4

**Question Number : 64 Question Id : 92090624462 Question Type : 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: प्रदुषण विज्ञान में सांखिकीय विधि आवश्यक है क्योंकि हर समय हर जगह पर्यावरण के सभी गुणों की पहचान करना असम्भव है।

कारण R: सांखिकी , जैसे कि माध्य, मानक विचलन और विश्वास्यता अंतराल, वातावरण की विशेषताए या गुणों का सार प्रदान करते 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 हैं
2. A और R दोनों सही हैं और R, A की सही व्याख्या नहीं हैं
3. A सही है लेकिन R सही नहीं है
4. A सही नहीं है लेकिन R सही है

**Options :**

92090696653. 1

92090696654. 2

92090696655. 3

92090696656. 4

**Question Number : 65 Question Id : 92090624463 Question Type : 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 types of the errors in hypothesis testing are described as -

(a) Type I error : The error of rejecting  $H_0$ , when  $H_0$  is true.

(b) Type II error : The error of failing to reject  $H_0$ , When  $H_0$  is false

The only way to gurantee that neither type of error occurs is :

1. Use a subset of population for analysis in decision making
2. Use a subset of sample for analysis in decision making
3. Use the entire population for analysis in decision making
4. Use the entire sample for analysis in decision making

**Options :**

92090696657. 1

92090696658. 2

92090696659. 3

92090696660. 4

**Question Number : 65 Question Id : 92090624463 Question Type : 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**

परिकल्पना परीक्षण के दौरान होनेवाली त्रुटियों के प्रकारों की परिभाषा नीचे दी गयी है

A. प्रकार I: त्रुटि  $H_0$  को अस्वीकृत करने की त्रुटि, जब  $H_0$  सत्य हो  
B. प्रकार II- त्रुटि  $H_0$  को अस्वीकृत करने में असफल रहने की त्रुटि जब  $H_0$  असत्य है  
निम्न में से कौन-सा एक रास्ता यह सुनिश्चित करता है कि किसी प्रकार की त्रुटि नहीं है।

1. निर्णय लेने के लिए, विश्लेषण के एक समष्टि के एक उपसमुच्चय का उपयोग
2. निर्णय लेने के लिए, विश्लेषण के उपसमुच्चय का उपयोग
3. निर्णय लेने के लिए, विश्लेषण में संपूर्ण समष्टि का उपयोग
4. निर्णय लेने के लिए, विश्लेषण में संपूर्ण नमूनों का उपयोग

**Options :**

92090696657. 1

92090696658. 2

92090696659. 3

92090696660. 4

**Question Number : 66 Question Id : 92090624464 Question Type : 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**

What is the approximate bandwidth of a typical voice signal?

1. 2 Hz
2. 3 kHz
3. 20 MHz
4. 30 MHz

**Options :**

92090696661. 1

92090696662. 2

92090696663. 3

92090696664. 4

**Question Number : 66 Question Id : 92090624464 Question Type : 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 प्रारूपी ध्वनी संकेतक की बैंडविड्थ (बैंड प्रसार) लगभग कितनी होती है?

1. 2 Hz
2. 3 kHz
3. 20 MHz
4. 30 MHz

**Options :**

92090696661. 1
92090696662. 2
92090696663. 3
92090696664. 4

**Question Number : 67 Question Id : 92090624465 Question Type : 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 :** In any incident of hacking or spamming, the perpetrator's location on the network can be tracked through the IP address

**Reasons R :** IP address is a unique combination of numbers and periods which acts as an identity for the network device when it connects to the internet.

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 and **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 :**

92090696665. 1
92090696666. 2
92090696667. 3
92090696668. 4

**Question Number : 67 Question Id : 92090624465 Question Type : 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: हैकिंग या स्पैमिंग को किसी भी घटना में, नेटवर्क पर अपराधियों की स्थिती को आइ.पी.एड्रेस से पता किया जा सकता है।

कारण R: आई.पी.एड्रेस संख्याओं और समय का एक विलक्षण संयोजन है जो कि एक नेटवर्क यंत्र को पहचान करने के रूप में कार्य करता है जब इसे इंटरनेट से जोड़ा जाता 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 हैं
2. A और R दोनों सही हैं और R, A की सही व्याख्या नहीं हैं
3. A सही है लेकिन R सही नहीं है
4. A सही नहीं है लेकिन R सही है

**Options :**

- 92090696665. 1
- 92090696666. 2
- 92090696667. 3
- 92090696668. 4

**Question Number : 68 Question Id : 92090624466 Question Type : 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 following memory storage capacities and arrange them in increasing order.

- A. Exabyte
- B. Terabyte
- C. Petabyte
- D. Zettabyte

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

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

**Options :**

- 92090696669. 1
- 92090696670. 2
- 92090696671. 3
- 92090696672. 4

Question Number : 68 Question Id : 92090624466 Question Type : 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 मैमोरी (स्मृति भंडार) स्टोरेज क्षमताओं पर विचार किजिए और उन्हें उनके बढ़ते क्रम में व्यवस्थित कीजिए

- A. एग्जाबाइट (Exabyte)
- B. टेराबाइट
- C. पेटाबाइट
- D. जीटाबाइट

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

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

Options :

- 92090696669. 1
- 92090696670. 2
- 92090696671. 3
- 92090696672. 4

Question Number : 69 Question Id : 92090624467 Question Type : 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 are close examples of DBMS software?

- A. Mango DB
- B. Amazon RDS
- C. Oracle database
- D. Tensor Flow

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

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

Options :

- 92090696673. 1
- 92090696674. 2
- 92090696675. 3
- 92090696676. 4



**Question Number : 69 Question Id : 92090624467 Question Type : 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 डी.बी.एम.एस साएवेयर के नजदीक उदाहरण हैं?

- A. मैगो डी बी
- B. अमेजन आर डी एस
- C. ऑरेकल डेटा बेस
- D. टेन्सर फ्लो

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

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

**Options :**

- 92090696673. 1
- 92090696674. 2
- 92090696675. 3
- 92090696676. 4

**Question Number : 70 Question Id : 92090624468 Question Type : 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**

In an E-R diagram, identifying relationship is used for -

- 1. Strong entity type
- 2. Weak entity type
- 3. NULL entity type
- 4. Complex entity type

**Options :**

- 92090696677. 1
- 92090696678. 2
- 92090696679. 3
- 92090696680. 4

**Question Number : 70 Question Id : 92090624468 Question Type : 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 E-R रेखा चित्र में, सम्बन्धों को पहचानने वाली प्रक्रिया किसके लिए इस्तेमाल होती है।

1. स्ट्रांग (मजबूत) ऐंटिटी प्रकार
2. वीक (कमजोर) ऐंटिटी प्रकार
3. नल ऐंटिटी प्रकार
4. कॉम्पेक्स (जटिल) ऐंटिटी प्रकार

**Options :**

92090696677. 1
92090696678. 2
92090696679. 3
92090696680. 4

**Question Number : 71 Question Id : 92090624469 Question Type : 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**

Conditional operator (? :) is a -

1. Unary operator
2. Binary operator
3. Bitwise operator
4. Ternary operator

**Options :**

92090696681. 1
92090696682. 2
92090696683. 3
92090696684. 4

**Question Number : 71 Question Id : 92090624469 Question Type : 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**

कंडीशनल ऑपरेटर (? :) क्या है?

1. युनरी ऑपरेटर
2. बाइनरी ऑपरेटर
3. बिटवायर ऑपरेटर
4. टर्नरी ऑपरेटर

**Options :**

92090696681. 1
92090696682. 2
92090696683. 3

**Question Number : 72 Question Id : 92090624470 Question Type : 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 (Device)		LIST II (Example)	
A.	Pointing devices	I.	Bar code reader
B.	Handheld devices	II.	Touch screen
C.	Optical devices	III.	Trackball
D.	Audio-visual devices	IV.	Microphone

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

**Options :**

92090696685. 1
92090696686. 2
92090696687. 3
92090696688. 4

**Question Number : 72 Question Id : 92090624470 Question Type : 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

साधन

उदाहरण

- |                        |                 |
|------------------------|-----------------|
| A. प्वाइंटिंग डिवाइस   | I. बार कोड रीडर |
| B. हैंडहेल्ड डिवाइस    | II. टच स्क्रीन  |
| C. ऑप्टिकल डिवाइस      | III. ट्रैक-बॉल  |
| D. आडियो विजुअल डिवाइस | IV. माइक्रोफोन  |

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

**Options :**

92090696685. 1
92090696686. 2

92090696687. 3

92090696688. 4

**Question Number : 73 Question Id : 92090624471 Question Type : 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 description of a database is called -

1. database state
2. database schema
3. database snapshot
4. database instance

**Options :**

92090696689. 1

92090696690. 2

92090696691. 3

92090696692. 4

**Question Number : 73 Question Id : 92090624471 Question Type : 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**

डेटाबेस के वर्णन को क्या कहा जाता है?

1. डेटाबेस स्टेट
2. डेटाबेस स्किम
3. डेटाबेस स्नैपशॉट
4. डेटाबेस इंस्टांस

**Options :**

92090696689. 1

92090696690. 2

92090696691. 3

92090696692. 4

**Question Number : 74 Question Id : 92090624472 Question Type : 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 main printed circuit board in a computer is called -

1. Processor chip
2. Motherboard
3. I/O chip
4. Load / store chip

**Options :**

92090696693. 1  
92090696694. 2  
92090696695. 3  
92090696696. 4

**Question Number : 74 Question Id : 92090624472 Question Type : 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 कम्प्युटर में मुख्य प्रिंटेड परिपथ (सक्रिट) बोर्ड को क्या कहा जाता है

1. प्रोसेसर चिप
2. मदर बोर्ड
3. आइ/ओ चिप
4. लोड/स्टोर चिप

**Options :**

92090696693. 1  
92090696694. 2  
92090696695. 3  
92090696696. 4

**Question Number : 75 Question Id : 92090624473 Question Type : 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 acronym 'VOIP' stand for

1. Voice Over Internet Prototype
2. Video Over Internet Prototype
3. Voice Over Internet Protocol
4. Video Over Internet Process

**Options :**

92090696697. 1  
92090696698. 2  
92090696699. 3

92090696700. 4

**Question Number : 75 Question Id : 92090624473 Question Type : 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**

संक्षिप्त शब्द 'VOIP' (वी.ओ.आइ.पी) का क्या अर्थ है?

1. वोइस ओवर इंटरनेट प्रोटोटाइप
2. विडियो ओवर इंटरनेट प्रोटोटाइप
3. वौइस ओवर इंटरनेट प्रोटोकॉल
4. विडियो ओवर इंटरनेट प्रोसेस

**Options :**

92090696697. 1  
92090696698. 2  
92090696699. 3  
92090696700. 4

**Question Number : 76 Question Id : 92090624474 Question Type : 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 tectonic plates are moving away from each other?

1. Indian plate - Eurasian plate
2. Nazca plate - South American plate
3. Pacific plate - North American plate
4. Eurasian plate - North American plate

**Options :**

92090696701. 1  
92090696702. 2  
92090696703. 3  
92090696704. 4

**Question Number : 76 Question Id : 92090624474 Question Type : 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 सी विवर्तनिक प्लेटे एक दूसरे से दूर जा रही हैं?

1. इंडियन प्लेट- यूरेशियन प्लेट
2. नज्का प्लेट- दक्षिणी अमेरीकन प्लेट
3. पैसिफिक प्लेट- उत्तरी अमेरीकन प्लेट
4. यूरेशियन प्लेट- उत्तरी अमेरीकन प्लेट

**Options :**

92090696701. 1  
92090696702. 2  
92090696703. 3  
92090696704. 4

**Question Number : 77 Question Id : 92090624475 Question Type : 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**

S - seismic waves can't travel through

1. Outer core
2. Inner core
3. Lower mantle
4. Upper mantle

**Options :**

92090696705. 1  
92090696706. 2  
92090696707. 3  
92090696708. 4

**Question Number : 77 Question Id : 92090624475 Question Type : 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**

S किस्म कि भूकंपी तरंगें किससे नहीं गुजर सकती है ।

1. बाहरी क्रोड़
2. आंतरिक क्रोड़
3. निचली मैटल (प्रावार)
4. ऊपरी मैटल (प्रावार)

**Options :**

92090696705. 1  
92090696706. 2

92090696707. 3

92090696708. 4

**Question Number : 78 Question Id : 92090624476 Question Type : 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**

Slices of oceanic crust obducted onto continental margins are called -

1. Troctolites
2. Ophiolites
3. Graptolites
4. Theodolite

**Options :**

92090696709. 1

92090696710. 2

92090696711. 3

92090696712. 4

**Question Number : 78 Question Id : 92090624476 Question Type : 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**

महासागरीय सतह के अंश जो कि महाद्विपीय सीमांतों पर अभिप्लवन कर गए हों, क्या कहलाते हैं?

1. ट्रौक्टोलाइट
2. ओफियोलाइट
3. ग्राटोलाइट
4. थियोडोलाइट

**Options :**

92090696709. 1

92090696710. 2

92090696711. 3

92090696712. 4

**Question Number : 79 Question Id : 92090624477 Question Type : 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 among the following is also called Low Velocity Zone?

1. Crust
2. Mantle
3. Lithosphere
4. Asthenosphere

**Options :**

92090696713. 1  
92090696714. 2  
92090696715. 3  
92090696716. 4

**Question Number : 79 Question Id : 92090624477 Question Type : 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 किसे निम्न वेग क्षेत्र कहा जाता है?

1. पपड़ी (Crust)
2. आवरण (Mantle)
3. स्थल मंडल
4. दुर्बलता मंडल (Asthenosphere)

**Options :**

92090696713. 1  
92090696714. 2  
92090696715. 3  
92090696716. 4

**Question Number : 80 Question Id : 92090624478 Question Type : 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 fault in which hanging wall block moves down relative to the footwall block is called as

1. normal fault
2. reverse fault
3. strike slip fault
4. joints

**Options :**

92090696717. 1  
92090696718. 2

92090696719. 3

92090696720. 4

**Question Number : 80 Question Id : 92090624478 Question Type : 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**

वह भ्रंश (फाल्ट) जिसमें लटकती हुई दीवार खंड फुट वाल खंड के सापेक्ष नीचे गतिमान होता है, उसे क्या कहा जाता है?

1. नार्मल भ्रंश
2. रिवर्स (विपरीत) भ्रंश
3. स्ट्राइक स्लिप भ्रंश
4. जॉइंट (जोड़)

**Options :**

92090696717. 1

92090696718. 2

92090696719. 3

92090696720. 4

**Question Number : 81 Question Id : 92090624479 Question Type : 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**

Arrange the following features in correct sequence from continents to deep sea.

- A. Abyssal Plains
- B. Continental Rise
- C. Continental Shelf
- D. Continental Slope

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

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

**Options :**

92090696721. 1

92090696722. 2

92090696723. 3

92090696724. 4

Question Number : 81 Question Id : 92090624479 Question Type : 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 दिये गए लक्षणों को उनके महाद्विपीय से गहरे समुद्र की ओर जाते हुए क्रम में व्यवस्थित कीजिए

- A. अगाध मैदान
- B. महाद्विपीय उढ़ाव
- C. महाद्विपीय सेल्फ
- D. महाद्विपीय ढलाव

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

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

Options :

- 92090696721. 1
- 92090696722. 2
- 92090696723. 3
- 92090696724. 4

Question Number : 82 Question Id : 92090624480 Question Type : 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** : X-rays can be used to probe the crystal structure of solids.

**Reasons R** : The wavelength of X-rays is of the order of interatomic spacing.

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 and **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 :

- 92090696725. 1
- 92090696726. 2
- 92090696727. 3
- 92090696728. 4

**Question Number : 82 Question Id : 92090624480 Question Type : 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: X- किरणों का उपयोग ठोस पदार्थ की क्रिस्टलीय संरचना का पता लगाने के लिए किया जाता है।

कारण R: X- किरणों की तरंग दैर्घ्य अंतः परमाण्विय जगह के माप के बराबर 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 हैं और R, A की सही व्याख्या हैं
2. A और R दोनों सही हैं और R, A की सही व्याख्या नहीं हैं
3. A सही है लेकिन R सही नहीं है
4. A सही नहीं है लेकिन R सही है

**Options :**

- 92090696725. 1
- 92090696726. 2
- 92090696727. 3
- 92090696728. 4

**Question Number : 83 Question Id : 92090624481 Question Type : 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 vary significantly over space and time at boundary layer in ambient atmosphere

1. Sulphur dioxide
2. water vapour
3. carbondioxide
4. Nitrogen dioxide

**Options :**

- 92090696729. 1
- 92090696730. 2
- 92090696731. 3
- 92090696732. 4

**Question Number : 83 Question Id : 92090624481 Question Type : 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 सी गैस परिवेशित वायुमंडल में बाऊंड्री लेअर पर समय और जगह के अनुसार सबसे ज्यादा बदलती हैं?

1. सल्फर डाईआक्साइड
2. जलवाष्प
3. कार्बन डाईआक्साइड
4. नाइट्रोजन डाईआक्साइड

**Options :**

92090696729. 1

92090696730. 2

92090696731. 3

92090696732. 4

**Question Number : 84 Question Id : 92090624482 Question Type : 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.	Crust - Mantle boundary	I.	5150 km
B.	Core - Mantle boundary	II.	35 km
C.	Outer core - Inner core boundary	III.	150 km
D.	Lithosphere - Asthenosphere boundary	IV.	2900 km

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

**Options :**

92090696733. 1

92090696734. 2

92090696735. 3

92090696736. 4

**Question Number : 84 Question Id : 92090624482 Question Type : 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. पपड़ी- प्रावार सीमा             | I. 5150 किमी  |
| B. क्रोड़- प्रावार सीमा            | II. 35 किमी   |
| C. बाहरी क्रोड़-आंतरिक क्रोड़ सीमा | III. 150 किमी |
| D. स्थलमंडल- एस्थिनोस्फियर सीमा    | IV. 2900 किमी |
1. A-III, B-I, C-IV, D-II
  2. A-II, B-I, C-IV, D-III
  3. A-II, B-IV, C-I, D-III
  4. A-III, B-IV, C-II, D-I

**Options :**

92090696733. 1  
92090696734. 2  
92090696735. 3  
92090696736. 4

**Question Number : 85 Question Id : 92090624483 Question Type : 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**

Arrange the following elements in ascending order of their relative abundance in the whole earth .

- A. Silicon
- B. Iron
- C. Magnesium
- D. Oxygen
- E. Nickel

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

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

**Options :**

92090696737. 1  
92090696738. 2  
92090696739. 3  
92090696740. 4

**Question Number : 85 Question Id : 92090624483 Question Type : 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 दिये गये तत्वों को, सम्पूर्ण पृथ्वी पर उनकी सापेक्ष प्रचरता के बढ़ते हुए क्रम में व्यवस्थित कीजिए

- A. सिलिकॉन
- B. लोह
- C. मैग्नीशियम
- D. आक्सीजन
- E. निकिल

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

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

**Options :**

- 92090696737. 1
- 92090696738. 2
- 92090696739. 3
- 92090696740. 4

**Question Number : 86 Question Id : 92090624484 Question Type : 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 statements is incorrect with reference to El Nino?

- 1. Shift in cloud bands from west to east pacific ocean
- 2. Weaker than normal trade winds
- 3. Rising air in the western equatorial pacific ocean
- 4. Warmer than normal surface temperature in the eastern pacific ocean

**Options :**

- 92090696741. 1
- 92090696742. 2
- 92090696743. 3
- 92090696744. 4

**Question Number : 86 Question Id : 92090624484 Question Type : 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**

El Nino के संदर्भ में निम्नलिखित में से कौन सा कथन गलत है?

1. पश्चिमी प्रशान्त महासागर से पूर्वी प्रशान्त महासागर की ओर बादल पट्टों का जाना
2. सामान्य ट्रेड पवनों से अपेक्षाकृत कमजोर
3. भू-पश्चिमी मधी प्रशान्त महासागर में ऊपर उठती हवा
4. पूर्वी प्रशान्त महासागर में अपेक्षाकृत सामान्य सतह तापमान से गर्म सतह तापमान

**Options :**

92090696741. 1  
92090696742. 2  
92090696743. 3  
92090696744. 4

**Question Number : 87 Question Id : 92090624485 Question Type : 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**

High pressure condition is observed at the centre in -

1. Cyclones
2. Hurricanes
3. Anticyclones
4. Typhoons

**Options :**

92090696745. 1  
92090696746. 2  
92090696747. 3  
92090696748. 4

**Question Number : 87 Question Id : 92090624485 Question Type : 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**

किसके केन्द्र में उच्च दबाव की स्थिति देखी जाती है

1. साइक्लोन
2. हरिकेन
3. एंटीसाइक्लोन
4. टायफून

**Options :**

92090696745. 1  
92090696746. 2  
92090696747. 3

**Question Number : 88 Question Id : 92090624486 Question Type : 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.	Land breeze	I.	Strong down slope wind in mountain area
B.	Katabatic wind	II.	Blows from sea to land
C.	Geostrophic wind	III.	Night-time flow of wind from land to sea
D.	Sea breeze	IV.	Blows parallel to isobars

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

**Options :**

92090696749. 1  
92090696750. 2  
92090696751. 3  
92090696752. 4

**Question Number : 88 Question Id : 92090624486 Question Type : 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. स्थल समीर I. पर्वतीय क्षेत्रों में, ढलान के साथ वाली शक्तिशाली हवा  
B. कैटाबेटिक वायु II. समुद्र से स्थल की ओर बहती हैं  
C. भूविक्षेपी वायु III. रात के समय स्थल से समुद्र की ओर बहती हैं  
D. समुद्री समीर IV. समदबाव रेखा के समान्तर बहती हैं

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

**Options :**

92090696749. 1  
92090696750. 2  
92090696751. 3  
92090696752. 4



**Question Number : 89 Question Id : 92090624487 Question Type : 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**

Thermocline is weak to non-existent in the oceans of

- A. tropics
- B. polar regions
- C. temperate climates

Choose the most appropriate **answer** from the following

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

**Options :**

- 92090696753. 1
- 92090696754. 2
- 92090696755. 3
- 92090696756. 4

**Question Number : 89 Question Id : 92090624487 Question Type : 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**

किन महासागरों में तापप्रवणता मंद या विद्यमान नहीं होती?

- A. उष्णकटिबन्ध
- B. ध्रुवीक्ष क्षेत्र
- C. शीतोष्ण जलवायु

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

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

**Options :**

- 92090696753. 1
- 92090696754. 2
- 92090696755. 3
- 92090696756. 4

**Question Number : 90 Question Id : 92090624488 Question Type : 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.	Tropical Climate	I.	Cold and covered by snow due to elevation
B.	Dry climate	II.	Average annual temperature $> 18^{\circ} C$
C.	High land	III.	Average annual temperature $< 10^{\circ} C$
D.	Cold climate	IV.	Evaporation is more than precipitation

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

**Options :**

92090696757. 1  
92090696758. 2  
92090696759. 3  
92090696760. 4

**Question Number : 90 Question Id : 92090624488 Question Type : 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. उष्णकटिबन्धीय जलवायु | I. ऊँचाई के कारण शीत और बर्फ द्वारा ढका  |
| B. शुष्क जलवायु         | II. औसत वार्षिक तापमान $> 18^{\circ} C$  |
| C. ऊँची भूमी            | III. औसत वार्षिक तापमान $< 10^{\circ} C$ |
| D. शीत जलवायु           | IV. वर्षा से अधिक वाष्पीकरण              |

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

**Options :**

92090696757. 1  
92090696758. 2  
92090696759. 3  
92090696760. 4

**Question Number : 91 Question Id : 92090624489 Question Type : 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**

Trade winds are observed in -

1.  $30^{\circ}$  N -  $60^{\circ}$  N
2.  $60^{\circ}$  N -  $90^{\circ}$  N
3.  $30^{\circ}$  N -  $30^{\circ}$  S
4.  $30^{\circ}$  S -  $60^{\circ}$  S

**Options :**

92090696761. 1  
92090696762. 2  
92090696763. 3  
92090696764. 4

**Question Number : 91 Question Id : 92090624489 Question Type : 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**

व्यापार पवनें कहाँ देखी जाती हैं

1.  $30^{\circ}$  N -  $60^{\circ}$  N
2.  $60^{\circ}$  N -  $90^{\circ}$  N
3.  $30^{\circ}$  N -  $30^{\circ}$  S
4.  $30^{\circ}$  S -  $60^{\circ}$  S

**Options :**

92090696761. 1  
92090696762. 2  
92090696763. 3  
92090696764. 4

**Question Number : 92 Question Id : 92090624490 Question Type : 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 troposphere is thicker at the equator than the poles

**Statement II :** Convection currents in atmosphere can transport heat and dust particles to greater heights.

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 :**

92090696765. 1  
92090696766. 2  
92090696767. 3  
92090696768. 4

**Question Number : 92 Question Id : 92090624490 Question Type : 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: ध्रुवीय क्षेत्रों की अपेक्षा भूमध्य रेखा पर क्षोमण्डल अधिक मोटा होता है।

कथन II: वायुमंडल में उपस्थित संवहन धारायें ऊष्मा और धूल के कणों को अधिक ऊपर ले जाती 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 हैं
2. कथन I और कथन II दोनों सही नहीं हैं
3. कथन I सही हैं, लेकिन कथन II गलत हैं
4. कथन I गलत हैं, लेकिन कथन II सही हैं

**Options :**

92090696765. 1  
92090696766. 2  
92090696767. 3  
92090696768. 4

**Question Number : 93 Question Id : 92090624491 Question Type : 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**

New ocean floor is created at

1. Mid-oceanic ridges
2. Ocean - ocean convergent boundary
3. Ocean - continent convergent boundary
4. Continent - continent convergent boundary

**Options :**

92090696769. 1  
92090696770. 2  
92090696771. 3  
92090696772. 4

**Question Number : 93 Question Id : 92090624491 Question Type : 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**

नया महासागरीय तल कहाँ पर बनता है?

1. मध्य- महासागरीय कटक
2. महासागरीय -महासागरीय अभिसरण सीमा
3. महासागरीय -महाद्विपीय अभिसरण सीमा
4. महाद्विपीय - महाद्विपीय अभिसरण सीमा

**Options :**

92090696769. 1  
92090696770. 2  
92090696771. 3  
92090696772. 4

**Question Number : 94 Question Id : 92090624492 Question Type : 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 :** Most shortwave radiations reaching the earth are within the visible portion of the spectrum and the wavelength of maximum energy flux from the sun is at  $0.48 \mu\text{m}$ , which is visible to human eye as green light.

**Statement II :** The earth's atmosphere is largely opaque to most of the long wave spectrum, however, a window between  $8$  and  $11 \mu\text{m}$  permits escape of portion of long wave energy to space.

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 :**

92090696773. 1  
92090696774. 2  
92090696775. 3  
92090696776. 4

**Question Number : 94 Question Id : 92090624492 Question Type : 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: पृथ्वी पर पहुचने वाली अधिकतम छोटी तरंग वाली विकिरण स्पेक्ट्रम के दृश्य भाग में होती है और सूर्य से अधिकतम ऊर्जा की मात्रा की तरंग दैर्घ्य  $0.48 \mu\text{m}$  पर होती है, जो कि मानव नेत्र को हरे प्रकाश के रूप में दर्शित होती है।

कथन II: पृथ्वी का वायु मंडल अधिकतर लम्बी तरंग दर्ध्य वाली किरणों के लिए प्राय अपारदर्शी है जबकी  $8\mu\text{m}$  से  $11 \mu\text{m}$  के बीच का क्षेत्र लम्बी तरंगधर्य वाली किरणों को अंतरिक्ष में जाने देता 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 हैं
2. कथन I और कथन II दोनों सही नहीं हैं
3. कथन I सही हैं, लेकिन कथन II गलत हैं
4. कथन I गलत , लेकिन कथन II सही हैं

**Options :**

92090696773. 1  
92090696774. 2  
92090696775. 3



92090696776. 4

**Question Number : 95 Question Id : 92090624493 Question Type : 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**

Amount of water vapor in a given volume(gm of water vapour/cubic meter of air) air at particular time and temperature is called as -

1. Relative humidity
2. Absolute Humidity
3. Effective Humadity
4. Actual Humidity

**Options :**

92090696777. 1  
92090696778. 2  
92090696779. 3  
92090696780. 4

**Question Number : 95 Question Id : 92090624493 Question Type : 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 विशेष समय और तापमान पर वायु की दिये गए आयतन में वाष्प की मात्रा (वास्पात्रा ग्राम/ हवा का एक मीटर क्यूब) को क्या कहा जाता है

1. सापेक्षिक आर्द्रता
2. पूर्ण आर्द्रता
3. प्रभावी आर्द्रता
4. वास्तविक आर्द्रता

**Options :**

92090696777. 1  
92090696778. 2  
92090696779. 3  
92090696780. 4

**Question Number : 96 Question Id : 92090624494 Question Type : 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 removal of clay, silt and sand particles from the land surface by wind is called

1. weathering
2. shifting
3. saltation
4. deflation

**Options :**

92090696781. 1  
92090696782. 2  
92090696783. 3  
92090696784. 4

**Question Number : 96 Question Id : 92090624494 Question Type : 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**

पवन के द्वारा भूमि सतह से चिकनी मिट्टी, गाद और रेत के कणों पृथक्कीकरण क्या कहलाता है?

1. अपक्षय
2. स्थानांतरण
3. उच्छलन
4. संकुचन

**Options :**

92090696781. 1  
92090696782. 2  
92090696783. 3  
92090696784. 4

**Question Number : 97 Question Id : 92090624495 Question Type : 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 correct statements

- A. Thiobacillus bacteria helps in conversion of S to  $\text{SO}_4^{2-}$ .
- B. Nitrosomans bacteria helps in conversion of  $\text{NH}_4^+$  into  $\text{NO}_2^-$ .
- C. Nitrobacter bacteria helps in conversion of  $\text{NO}_2^-$  to  $\text{NO}_3^-$ .
- D. Thiobacillus ferrooxidans helps in oxidation of  $\text{Fe}^{+2}$  to  $\text{Fe}^{+3}$ .

Choose the most appropriate **answer** from the options given below :

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

**Options :**

- 92090696785. 1
- 92090696786. 2
- 92090696787. 3
- 92090696788. 4

**Question Number : 97 Question Id : 92090624495 Question Type : 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**

सही कथन को चुनिए

- A. थियोबैसिलस जीवाणु S को  $\text{SO}_4^{2-}$  में परिवर्तन में सहायता करते हैं।
- B. नाइट्रोसोमोनास जीवाणु  $\text{NH}_4^+$  को  $\text{NO}_2^-$  में परिवर्तन में सहायता करते हैं।
- C. नाइट्रोबैक्टर जीवाणु  $\text{NO}_2^-$  को  $\text{NO}_3^-$  में परिवर्तन में सहायता करते हैं।
- D. थियोबैसिलस फ़ैरोआक्सीडंस  $\text{Fe}^{+2}$  से  $\text{Fe}^{+3}$  के आक्सीकरण में सहायता करते हैं।

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

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

**Options :**

- 92090696785. 1
- 92090696786. 2
- 92090696787. 3
- 92090696788. 4

**Question Number : 98 Question Id : 92090624496 Question Type : 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 :** Ozone, aided to some extent by  $O_2$  at shorter wavelength, filters out all of sun's UV light in 200 - 290 nm range.

**Statement II :** Ozone is not completely effective in shielding us from light in the UV-B region and neither ozone nor any other constituent of clean atmosphere absorbs significantly in UV A range.

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 :**

92090696789. 1  
92090696790. 2  
92090696791. 3  
92090696792. 4

**Question Number : 98 Question Id : 92090624496 Question Type : 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: ओजोन, कुछ हद तक अपेक्षाकृत छोटी तरंग दैर्घ्य पर  $O_2$  की सहायता से, सूर्य के पाराबैंगनी प्रकाश को (200 - 290 nm तरंग दैर्घ्य कि प्रसार में) में धरती पर नहीं आने देती है।

कथन II: ओजोन, हमें UV-B किरणों से आवरित करने में पूर्ण रूप से प्रभावी नहीं है और न तो ओजोन और न ही स्वच्छ वायुमंडल का कोई अन्य घटक UV-A प्रसार में किरणों को प्रभावी तरीके से अवशोषित करता।

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

**Options :**

92090696789. 1  
92090696790. 2  
92090696791. 3  
92090696792. 4

Question Number : 99 Question Id : 92090624497 Question Type : 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 gases are green house gases?

- A. Nitrogen dioxide
- B. Nitrous oxide
- C. Ozone
- D. Sulfur hexafluoride
- E. Water vapor

Choose the most appropriate **answer** from the options given below :

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

**Options :**

92090696793. 1

92090696794. 2

92090696795. 3

92090696796. 4

Question Number : 99 Question Id : 92090624497 Question Type : 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 सी ग्रीन हाउस गैसें हैं?

- A. नाइट्रोजन डाइऑक्साइड
- B. नाइट्रस ऑक्साइड
- C. ओजोन
- D. सल्फर हेक्साफ्लुराइड
- E. जल वाष्प

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए:

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

**Options :**

92090696793. 1

92090696794. 2

92090696795. 3



**Question Number : 100 Question Id : 92090624498 Question Type : 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** : Soil is weathered end-product of the actions of climate and living organism on soil parent material with a particular topography over time.

**Statement II** : Clays have high cation-exchange-capacity due to negative charges associated with them.

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 :**

92090696797. 1  
92090696798. 2  
92090696799. 3  
92090696800. 4

**Question Number : 100 Question Id : 92090624498 Question Type : 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: मृदा, जलवायु, और जीवित जीवों का मृदा जनक पदार्थ पर एक विशेष तलरूप और समय के साथ क्रिया करने का एक अंतिम उत्पाद है।

कथन II: क्ले की, ऋणात्मक आवेश के कारण उच्च कैटायन विनिमय क्षमता होती 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 हैं
2. कथन I और कथन II दोनों सही नहीं हैं
3. कथन I सही हैं, लेकिन कथन II गलत हैं
4. कथन I गलत हैं, लेकिन कथन II सही हैं

**Options :**

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