

National Testing Agency

Question Paper Name :	Nanoscience Eng 08th June 2023 Shift 2
Subject Name :	Nanoscience Eng
Creation Date :	2023-06-09 14:04:14
Duration :	120
Total Marks :	400
Display Marks:	Yes

Nanoscience

Group Number :	1
Group Id :	92090683
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	400
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Part A

Section Id :	920906165
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	21
Number of Questions to be attempted :	21
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	920906265
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Id : 9209068299 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

Excise case: Court extends Sisodia's custody till May 8

TimeNews Network

New Delhi: A special court in Delhi on Saturday extended former deputy CM Manish Sisodia's custody till may 8 in a "money laundering" case related to the alleged excise scam.

Sisodia, who was produced before the court at the end of his judicial custody, said before the media that Prime Minister Narendra Modi would not be able to stop chief minister Arvind Kejriwal's work in Delhi.

"Modiji may try as much as he wants, but he won't be able to stop the work of Kejriwal ji in Delhi. Modi ji may conspire as much as he wants," Sisodia said while he was being brought out of the courtroom.

On Friday, Special Judge MK Nagpal of Rouse Avenuae Court had denied bail to Sisodia, stating that the evidence, prime facie, "speaks volumes" of his involvement in commission of offence. The judge also said that the purported medical condition of Sisodia's wife was not a reason to grant him bail in this case. Additionally, he stated that it was impossible to rule out the potential of Sisodia influencing key witnesses in the case.

The court had earlier noted that the alleged offence against Sisodia was a "serious economic offence of money laundering" and that he had not been accused of committing the offence in his personal capacity, but rather in his official capacity as a public servant overseeing the excise ministry and serving as Delhi's deputy chief minister.

Sub questions

Question Number : 1 Question Id : 9209068300 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Custody has been extended. The synonym of the underlined word is:

- (1) Person who provides protective care.
- (2) Gauardianship of someone
- (3) Parental responsibility
- (4) Imprisonment or confinement

Options :

92090632801. 1
92090632802. 2
92090632803. 3
92090632804. 4

Question Number : 2 Question Id : 9209068301 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Prime facie means:

- (1) Law at first sight
- (2) Accepted to be false before proved otherwise.
- (3) Primary colour of an object
- (4) When prime accused are made face to face for the first time.

Options :

92090632805. 1

92090632806. 2

92090632807. 3

92090632808. 4

Question Number : 3 Question Id : 9209068302 Question Type : MCQ Option Shuffling : No 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 phrase speaks volume means:

- (1) Speaking lot of vulgar/abusive words.
- (2) Frankly expressing views/opinions
- (3) Convey a great deal without using words.
- (4) Speaks without stopping.

Options :

92090632809. 1

92090632810. 2

92090632811. 3

92090632812. 4

Question Number : 4 Question Id : 9209068303 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Money laundering is:

- (A) Disguising financial assets concealing illegal activities which produced them.
- (B) Financial crime where source of illegally acquired money is hidden from financial regulators.
- (C) Giving legally earned money for illegal work.
- (D) Not paying tax and saving money by such act.

Choose the correct answer from the options given below :

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

Options :

92090632813. 1
92090632814. 2
92090632815. 3
92090632816. 4

Question Number : 5 Question Id : 9209068304 Question Type : MCQ Option Shuffling : No 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 antonym of 'conspire' is:

- | | |
|--------------|------------------|
| (1) Plot | (2) Disassociate |
| (3) Maneuver | (4) Cook up |

Options :

92090632817. 1
92090632818. 2
92090632819. 3
92090632820. 4

Question Id : 9209068299 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

Excise case: Court extends Sisodia's custody till May 8

TimeNews Network

New Delhi: A special court in Delhi on Saturday extended former deputy CM Manish Sisodia's custody till May 8 in a "money laundering" case related to the alleged excise scam.

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"Modiji may try as much as he wants, but he won't be able to stop the work of Kejriwal ji in Delhi. Modi ji may conspire as much as he wants," Sisodia said while he was being brought out of the courtroom.

On Friday, Special Judge MK Nagpal of Rouse Avenue Court had denied bail to Sisodia, stating that the evidence, prime facie, "speaks volumes" of his involvement in commission of offence. The judge also said that the purported medical condition of Sisodia's wife was not a reason to grant him bail in this case. Additionally, he stated that it was impossible to rule out the potential of Sisodia influencing key witnesses in the case.

The court had earlier noted that the alleged offence against Sisodia was a "serious economic offence of money laundering" and that he had not been accused of committing the offence in his personal capacity, but rather in his official capacity as a public servant overseeing the excise ministry and serving as Delhi's deputy chief minister.

Sub questions

Question Number : 1 Question Id : 9209068300 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Custody has been extended. The synonym of the underlined word is:

- (1) Person who provides protective care.
- (2) Guardianship of someone
- (3) Parental responsibility
- (4) Imprisonment or confinement

Options :

92090632801. 1
92090632802. 2
92090632803. 3
92090632804. 4

Question Number : 2 Question Id : 9209068301 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Prime facie means:

- (1) Law at first sight
- (2) Accepted to be false before proved otherwise.
- (3) Primary colour of an object
- (4) When prime accused are made face to face for the first time.

Options :

- 92090632805. 1
- 92090632806. 2
- 92090632807. 3
- 92090632808. 4

Question Number : 3 Question Id : 9209068302 Question Type : MCQ Option Shuffling : No 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 phrase speaks volume means:

- (1) Speaking lot of vulgar/abusive words.
- (2) Frankly expressing views/opinions
- (3) Convey a great deal without using words.
- (4) Speaks without stopping.

Options :

- 92090632809. 1
- 92090632810. 2
- 92090632811. 3
- 92090632812. 4

Question Number : 4 Question Id : 9209068303 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Money laundering is:

- (A) Disguising financial assets concealing illegal activities which produced them.
- (B) Financial crime where source of illegally acquired money is hidden from financial regulators.
- (C) Giving legally earned money for illegal work.
- (D) Not paying tax and saving money by such act.

Choose the correct answer from the options given below :

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

Options :

92090632813. 1
92090632814. 2
92090632815. 3
92090632816. 4

Question Number : 5 Question Id : 9209068304 Question Type : MCQ Option Shuffling : No 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 antonym of 'conspire' is:

- (1) Plot
- (2) Disassociate
- (3) Maneuver
- (4) Cook up

Options :

92090632817. 1
92090632818. 2
92090632819. 3
92090632820. 4

Sub-Section Number :

2

Sub-Section Id :

920906266

Question Shuffling Allowed :

Yes

Is Section Default? :

null

Question Number : 6 Question Id : 9209068305 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Fill in the blanks with appropriate prepositions from the options given below:

Though consent _____ of a minor may be of no value. _____ the eyes of law, _____ the peculiar circumstances and facts of the case, it will not be prudent _____ a court to label the youth as an accused.

(1) of, on, with, of

(2) of, with, on, of

(3) of, for, in, on

(4) of, in, in, for

Options :

92090632821. 1

92090632822. 2

92090632823. 3

92090632824. 4

Question Number : 6 Question Id : 9209068305 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Fill in the blanks with appropriate prepositions from the options given below:

Though consent _____ of a minor may be of no value. _____ the eyes of law, _____ the peculiar circumstances and facts of the case, it will not be prudent _____ a court to label the youth as an accused.

(1) of, on, with, of

(2) of, with, on, of

(3) of, for, in, on

(4) of, in, in, for

Options :

92090632821. 1

92090632822. 2

92090632823. 3

92090632824. 4

Question Number : 7 Question Id : 9209068306 Question Type : MCQ Option Shuffling : No 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 partner in a business who takes no active part is called:

(1) Lazy Partner

(2) Standing Partner

(3) Sleeping Partner

(4) No Partner

Options :

92090632825. 1

92090632826. 2

92090632827. 3

Question Number : 7 Question Id : 9209068306 Question Type : MCQ Option Shuffling : No 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 partner in a business who takes no active part is called:

- | | |
|----------------------|----------------------|
| (1) Lazy Partner | (2) Standing Partner |
| (3) Sleeping Partner | (4) No Partner |

Options :

92090632825. 1
92090632826. 2
92090632827. 3
92090632828. 4

Question Number : 8 Question Id : 9209068307 Question Type : MCQ Option Shuffling : No 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 most suitable antonym of the given word 'PROFANE' is:

- | | |
|----------------|------------|
| (1) Wild | (2) Kitten |
| (3) Permissive | (4) Pious |

Options :

92090632829. 1
92090632830. 2
92090632831. 3
92090632832. 4

Question Number : 8 Question Id : 9209068307 Question Type : MCQ Option Shuffling : No 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 most suitable antonym of the given word 'PROFANE' is:

- | | |
|----------------|------------|
| (1) Wild | (2) Kitten |
| (3) Permissive | (4) Pious |

Options :

92090632829. 1

92090632830. 2

92090632831. 3

92090632832. 4

Question Number : 9 Question Id : 9209068308 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Synonym of the word 'PROCLAIM' is:

- | | |
|-------------|--------------|
| (1) Justice | (2) Renounce |
| (3) Pretend | (4) Announce |

Options :

92090632833. 1

92090632834. 2

92090632835. 3

92090632836. 4

Question Number : 9 Question Id : 9209068308 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Synonym of the word 'PROCLAIM' is:

- | | |
|-------------|--------------|
| (1) Justice | (2) Renounce |
| (3) Pretend | (4) Announce |

Options :

92090632833. 1

92090632834. 2

92090632835. 3

92090632836. 4

Question Number : 10 Question Id : 9209068309 Question Type : MCQ Option Shuffling : No 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 correctly spelt word from the given options:-

- | | |
|-------------------|------------------|
| (1) TONSILLECTOMY | (2) TONSELECTOMY |
| (3) TONESLECTOMY | (4) TONALLECTOMY |

Options :

92090632837. 1
92090632838. 2
92090632839. 3
92090632840. 4

Question Number : 10 Question Id : 9209068309 Question Type : MCQ Option Shuffling : No 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 correctly spelt word from the given options:-

- | | |
|-------------------|------------------|
| (1) TONSILLECTOMY | (2) TONSELECTOMY |
| (3) TONESLECTOMY | (4) TONALLECTOMY |

Options :

92090632837. 1
92090632838. 2
92090632839. 3
92090632840. 4

Question Number : 11 Question Id : 9209068310 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

At what rate of simple interest a money doubles itself in 5 years?

- | | |
|---------|---------|
| (1) 15% | (2) 5% |
| (3) 20% | (4) 10% |

Options :

92090632841. 1
92090632842. 2
92090632843. 3
92090632844. 4

Question Number : 11 Question Id : 9209068310 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

At what rate of simple interest a money doubles itself in 5 years?

- | | |
|---------|---------|
| (1) 15% | (2) 5% |
| (3) 20% | (4) 10% |

Options :

- 92090632841. 1
- 92090632842. 2
- 92090632843. 3
- 92090632844. 4

Question Number : 12 Question Id : 9209068311 Question Type : MCQ Option Shuffling : No 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 $A : B = 1 : 3$, $B : C = 2 : 5$, $C : D = 2 : 3$, find $A : B : C : D$.

- | | |
|----------------------|----------------------|
| (1) 8 : 12 : 25 : 30 | (2) 4 : 12 : 30 : 45 |
| (3) 1 : 6 : 10 : 5 | (4) 2 : 6 : 12 : 15 |

Options :

- 92090632845. 1
- 92090632846. 2
- 92090632847. 3
- 92090632848. 4

Question Number : 12 Question Id : 9209068311 Question Type : MCQ Option Shuffling : No 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 $A : B = 1 : 3$, $B : C = 2 : 5$, $C : D = 2 : 3$, find $A : B : C : D$.

- | | |
|----------------------|----------------------|
| (1) 8 : 12 : 25 : 30 | (2) 4 : 12 : 30 : 45 |
| (3) 1 : 6 : 10 : 5 | (4) 2 : 6 : 12 : 15 |

Options :

- 92090632845. 1
- 92090632846. 2
- 92090632847. 3
- 92090632848. 4

Question Number : 13 Question Id : 9209068312 Question Type : MCQ Option Shuffling : No 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 path of uniform width runs around inside of a rectangular field 38m long and 32m wide. If area of the path is 600m^2 , then width of the path will be

- | | |
|---------|------------|
| (1) 30m | (2) 5m |
| (3) 10m | (4) 18.75m |

Options :

92090632849. 1
92090632850. 2
92090632851. 3
92090632852. 4

Question Number : 13 Question Id : 9209068312 Question Type : MCQ Option Shuffling : No 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 path of uniform width runs around inside of a rectangular field 38m long and 32m wide. If area of the path is 600m^2 , then width of the path will be

- | | |
|---------|------------|
| (1) 30m | (2) 5m |
| (3) 10m | (4) 18.75m |

Options :

92090632849. 1
92090632850. 2
92090632851. 3
92090632852. 4

Question Number : 14 Question Id : 9209068313 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Selling prices of two items are same. One item is sold at a loss of 20% and the other item is sold a profit of 20%. What is the net loss/profit percentage?

- | | |
|----------------------|---------------|
| (1) No prfit no loss | (2) 2% profit |
| (3) 3% loss | (4) 4% loss |

Options :

92090632853. 1
92090632854. 2
92090632855. 3
92090632856. 4

Question Number : 14 Question Id : 9209068313 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Selling prices of two items are same. One item is sold at a loss of 20% and the other item is sold a profit of 20%. What is the net loss/profit percentage?

- | | |
|----------------------|---------------|
| (1) No prfit no loss | (2) 2% profit |
| (3) 3% loss | (4) 4% loss |

Options :

- 92090632853. 1
- 92090632854. 2
- 92090632855. 3
- 92090632856. 4

Question Number : 15 Question Id : 9209068314 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Vijay, Rakesh and Vinod can do a work in 24 days, 30 days and 40 days respectively. Vijay and Vinod together worked for 4 days and handed the work to Rakesh. Rakesh worked for few days and handed back the work to Vijay and Vinod 6 days before compleation of the work. For how many days did Rakesh work?

- | | |
|--------|--------|
| (1) 12 | (2) 10 |
| (3) 8 | (4) 7 |

Options :

- 92090632857. 1
- 92090632858. 2
- 92090632859. 3
- 92090632860. 4

Question Number : 15 Question Id : 9209068314 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Vijay, Rakesh and Vinod can do a work in 24 days, 30 days and 40 days respectively. Vijay and Vinod together worked for 4 days and handed the work to Rakesh. Rakesh worked for few days and handed back the work to Vijay and Vinod 6 days before compleation of the work. For how many days did Rakesh work?

- | | |
|--------|--------|
| (1) 12 | (2) 10 |
| (3) 8 | (4) 7 |

Options :

92090632857. 1
92090632858. 2
92090632859. 3
92090632860. 4

Question Number : 16 Question Id : 9209068315 Question Type : MCQ Option Shuffling : No 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 set of numbers from the four alternative sets that is similar to given set:

Given set (5, 35, 45)

(1) (7, 49, 65)

(2) (7, 49, 63)

(3) (8, 56, 90)

(4) (8, 56, 73)

Options :

92090632861. 1
92090632862. 2
92090632863. 3
92090632864. 4

Question Number : 16 Question Id : 9209068315 Question Type : MCQ Option Shuffling : No 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 set of numbers from the four alternative sets that is similar to given set:

Given set (5, 35, 45)

(1) (7, 49, 65)

(2) (7, 49, 63)

(3) (8, 56, 90)

(4) (8, 56, 73)

Options :

92090632861. 1
92090632862. 2
92090632863. 3
92090632864. 4

Question Number : 17 Question Id : 9209068316 Question Type : MCQ Option Shuffling : No 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 assumptions is implicit in the statements :

Statement : "There is very heavy traffic on Delhi roads between 6 to 8 pm. We need to have flyover in this area" A planning engineer said in a meeting.

Assumptions (I). Previous planning engineers did not do much about heavy traffic.
(II). Heavy traffic is sought to be maintained.
(III). A flyover is likely to solve the problem of heavy traffic.

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

- (1) Only (I) is implicit
- (2) Only (II) is implicit
- (3) Only (III) is implicit
- (4) Both (II) and (III) are implicit.

Options :

92090632865. 1
92090632866. 2
92090632867. 3
92090632868. 4

Question Number : 17 Question Id : 9209068316 Question Type : MCQ Option Shuffling : No 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 assumptions is implicit in the statements :

Statement : "There is very heavy traffic on Delhi roads between 6 to 8 pm. We need to have flyover in this area" A planning engineer said in a meeting.

Assumptions (I). Previous planning engineers did not do much about heavy traffic.
(II). Heavy traffic is sought to be maintained.
(III). A flyover is likely to solve the problem of heavy traffic.

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

- (1) Only (I) is implicit
- (2) Only (II) is implicit
- (3) Only (III) is implicit
- (4) Both (II) and (III) are implicit.

Options :

92090632865. 1

92090632866. 2

92090632867. 3

92090632868. 4

Question Number : 18 Question Id : 9209068317 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

One morning after sunrise Anuj and Sumit were talking to each other face-to-face at the park. If Anuj's shadow was exactly to the right of Sumit, which direction Anuj was facing?

- | | |
|-----------|-----------|
| (1) East | (2) West |
| (3) North | (4) South |

Options :

92090632869. 1

92090632870. 2

92090632871. 3

92090632872. 4

Question Number : 18 Question Id : 9209068317 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

One morning after sunrise Anuj and Sumit were talking to each other face-to-face at the park. If Anuj's shadow was exactly to the right of Sumit, which direction Anuj was facing?

- | | |
|-----------|-----------|
| (1) East | (2) West |
| (3) North | (4) South |

Options :

92090632869. 1

92090632870. 2

92090632871. 3

92090632872. 4

Question Number : 19 Question Id : 9209068318 Question Type : MCQ Option Shuffling : No 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 $A - B$ means A is the sister of B; $A + B$ means A is the brother of B while $A \times B$ means A is the father of B. Which of the following means that C is the son of M?

- | | |
|--------------------------|--------------------------|
| (1) $F - C + N \times M$ | (2) $M - N \times C + F$ |
| (3) $N + M - F \times C$ | (4) $M \times N - C + F$ |

Options :

92090632873. 1
92090632874. 2
92090632875. 3
92090632876. 4

Question Number : 19 Question Id : 9209068318 Question Type : MCQ Option Shuffling : No 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 $A - B$ means A is the sister of B; $A + B$ means A is the brother of B while $A \times B$ means A is the father of B. Which of the following means that C is the son of M?

- | | |
|--------------------------|--------------------------|
| (1) $F - C + N \times M$ | (2) $M - N \times C + F$ |
| (3) $N + M - F \times C$ | (4) $M \times N - C + F$ |

Options :

92090632873. 1
92090632874. 2
92090632875. 3
92090632876. 4

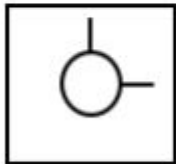
Question Number : 20 Question Id : 9209068319 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

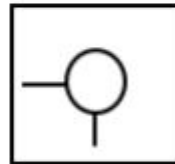
Find out which of the option figure would complete the figure matrix:

		
		
		?

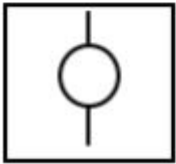
(1)



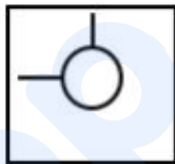
(2)



(3)



(4)



Options :

92090632877. 1

92090632878. 2

92090632879. 3

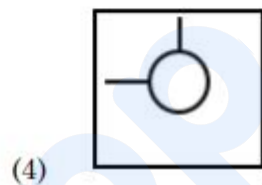
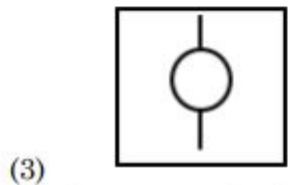
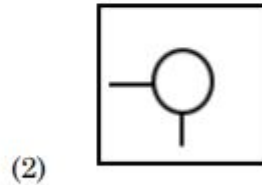
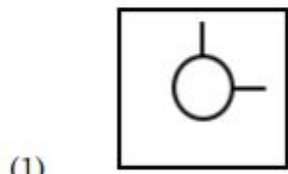
92090632880. 4

Question Number : 20 Question Id : 9209068319 Question Type : MCQ Option Shuffling : No 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 which of the option figure would complete the figure matrix:

		
		
		?



Options :

92090632877. 1

92090632878. 2

92090632879. 3

92090632880. 4

Question Number : 21 Question Id : 9209068320 Question Type : MCQ Option Shuffling : No 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 order of wavelength of electromagnetic spectrum

- (1) γ – rays < X – rays < Ultraviolet rays < Visible rays
- (2) X – rays < γ – rays < Ultraviolet rays < Visible
- (3) Visible rays < Ultraviolet < γ – rays < X- rays
- (4) Ultravidet rays < Visible rays < γ – rays < X - rays

Options :

92090632881. 1

92090632882. 2

92090632883. 3

92090632884. 4

Question Number : 21 Question Id : 9209068320 Question Type : MCQ Option Shuffling : No 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 order of wavelength of electromagnetic spectrum

- (1) γ – rays < X – rays < Ultraviolet rays < Visible rays
- (2) X – rays < γ – rays < Ultraviolet rays < Visible
- (3) Visible rays < Ultraviolet < γ – rays < X- rays
- (4) Ultravidet rays < Visible rays < γ – rays < X - rays

Options :

- 92090632881. 1
- 92090632882. 2
- 92090632883. 3
- 92090632884. 4

Question Number : 22 Question Id : 9209068321 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

_____ is also known as waterman for his contribution in water conservation and protection of water resources.

- | | |
|-------------------------|------------------------|
| (1) Dr. C.S Ranawat | (2) Dr. Rajendra Singh |
| (3) Sundar Lal Bahuguna | (4) Baba Aamte |

Options :

- 92090632885. 1
- 92090632886. 2
- 92090632887. 3
- 92090632888. 4

Question Number : 22 Question Id : 9209068321 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

_____ is also known as waterman for his contribution in water conservation and protection of water resources.

- | | |
|-------------------------|------------------------|
| (1) Dr. C.S Ranawat | (2) Dr. Rajendra Singh |
| (3) Sundar Lal Bahuguna | (4) Baba Aamte |

Options :

92090632885. 1
92090632886. 2
92090632887. 3
92090632888. 4

Question Number : 23 Question Id : 9209068322 Question Type : MCQ Option Shuffling : No 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 : Court poets and Mucicians

List I	List II
Court poets / Musicians	King / Emperor
(A) Harisena	(I) Akbar
(B) Kalidasa	(II) Samudra Gupta
(C) Tansen	(III) Deva Roy -II
(D) Dindima	(IV) Chandragupta II

Choose the correct answer from the options given below:

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

Options :

92090632889. 1
92090632890. 2
92090632891. 3
92090632892. 4

Question Number : 23 Question Id : 9209068322 Question Type : MCQ Option Shuffling : No 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 : Court poets and Musicians

List I	List II
Court poets / Musicians	King / Emperor
(A) Harisena	(I) Akbar
(B) Kalidasa	(II) Samudra Gupta
(C) Tansen	(III) Deva Roy -II
(D) Dindima	(IV) Chandragupta II

Choose the correct answer from the options given below:

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

Options :

92090632889. 1
92090632890. 2
92090632891. 3
92090632892. 4

Question Number : 24 Question Id : 9209068323 Question Type : MCQ Option Shuffling : No 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 layer in the atmosphere is being depleted because of presence of CO₂, N₂O and methane
- Statement II : Ozone layer at higher level of atmosphere shields the surface of earth from ultra violet radiations from Sun.

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 correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Options :

92090632893. 1
92090632894. 2

92090632895. 3

92090632896. 4

Question Number : 24 Question Id : 9209068323 Question Type : MCQ Option Shuffling : No 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 layer in the atmosphere is being depleted because of presence of CO₂, N₂O and methane

Statement II : Ozone layer at higher level of atmosphere shields the surface of earth from ultra violet radiations from Sun.

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 correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Options :

92090632893. 1

92090632894. 2

92090632895. 3

92090632896. 4

Question Number : 25 Question Id : 9209068324 Question Type : MCQ Option Shuffling : No 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 city has won the 'world Green City Award 2022'

- | | |
|---------------|--------------|
| (1) Indore | (2) Varanasi |
| (3) Hyderabad | (4) Gurugram |

Options :

92090632897. 1

92090632898. 2

92090632899. 3

92090632900. 4

Question Number : 25 Question Id : 9209068324 Question Type : MCQ Option Shuffling : No 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 city has won the 'world Green City Award 2022'

- | | |
|---------------|--------------|
| (1) Indore | (2) Varanasi |
| (3) Hyderabad | (4) Gurugram |

Options :

92090632897. 1

92090632898. 2

92090632899. 3

92090632900. 4

Part B: Nanoscience

Section Id :	920906166
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	75
Number of Questions to be attempted :	75
Section Marks :	300
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	920906267
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 26 Question Id : 9209068325 Question Type : MCQ Option Shuffling : No 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 Element having lowest first ionization energy is:

- | | |
|-------------|------------|
| (1) Lead | (2) Carbon |
| (3) Silicon | (4) Tin |

Options :

92090632901. 1

92090632902. 2

92090632903. 3

Question Number : 26 Question Id : 9209068325 Question Type : MCQ Option Shuffling : No 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 एलीमेंट मे से निम्नतर आयनीकृण ऊर्जा वाले का चयन करे।

- | | |
|-------------|------------|
| (1) लेड | (2) कार्बन |
| (3) सिलिकान | (4) टिन |

Options :

92090632901. 1

92090632902. 2

92090632903. 3

92090632904. 4

Question Number : 27 Question Id : 9209068326 Question Type : MCQ Option Shuffling : No 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 semi conductor material has Direct Band gap?

- | | |
|---|------------------------------|
| (1) Silicon Semi conductor | (2) Germanium Semi conductor |
| (3) Silicon Semi conductor at $T=0^{\circ}\text{C}$ | (4) Gallium Arsenic |

Options :

92090632905. 1

92090632906. 2

92090632907. 3

92090632908. 4

Question Number : 27 Question Id : 9209068326 Question Type : MCQ Option Shuffling : No 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 अर्धचालक पदार्थ जिसने सीधा बेनाल गेप है?

- | | |
|---|------------------------|
| (1) सिलिकान अर्धचालक | (2) जर्मेनियम अर्धचालक |
| (3) सिलिकान अर्धचालक $T=0^{\circ}\text{C}$ पर | (4) गेलियम आर्सेनिक |

Options :

92090632905. 1

92090632906. 2

92090632907. 3

92090632908. 4

Question Number : 28 Question Id : 9209068327 Question Type : MCQ Option Shuffling : No 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 following which helps in initiation of transcription is:

- (1) Rho factor associated with RNA polymerase
- (2) Small ribosomal unit
- (3) Sigma factor associated with RNA polymerase
- (4) tRNA amino acid complex

Options :

92090632909. 1

92090632910. 2

92090632911. 3

92090632912. 4

Question Number : 28 Question Id : 9209068327 Question Type : MCQ Option Shuffling : No 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 क्या अनुलेखन आरम्भ करता है?

- (1) RNA पालीमेरेस से सम्बंध Rho घटक
- (2) राइबोसोमल यूनिट
- (3) RNA पालीमेरेस से सम्बंध सिग्मा फेक्टर
- (4) tRNA अमिनो अम्ल समूह

Options :

92090632909. 1

92090632910. 2

92090632911. 3

92090632912. 4

Question Number : 29 Question Id : 9209068328 Question Type : MCQ Option Shuffling : No 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 statement(s) which is/are incorrect:

- (A) Every reaction has an order
- (B) For all the reaction units of rate and rate constants are different
- (C) Every reaction goes to completion
- (D) Unimolecular reactions are those in which molecularity does not always correspond to order

Choose the correct answer from the options given below :

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

Options :

- 92090632913. 1
- 92090632914. 2
- 92090632915. 3
- 92090632916. 4

Question Number : 29 Question Id : 9209068328 Question Type : MCQ Option Shuffling : No 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 असत्य कथन का चयन करें

- (A) सभी क्रियाओं का एक क्रम होता है।
- (B) सभी क्रियाओं के लिये दर की भूटि तथा दर स्थिरांक भिन्न है।
- (C) सभी क्रियाएँ समापन की ओर जाती हैं।
- (D) एक अणुविय क्रियाएँ वे होती हैं। जिनमें आप्विकता सदैव क्रम से समन्वय नहीं करती है।

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

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

Options :

- 92090632913. 1
- 92090632914. 2
- 92090632915. 3

Question Number : 30 Question Id : 9209068329 Question Type : MCQ Option Shuffling : No 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 Zeroth Law suggests that when two systems X and Y, are in thermal equilibrium, there must be a physical quantity that has the same value for both.

Reasons (R) : If X and Y are separately in equilibrium with Z, $T_x = T_z$ and $T_y = T_z$, this implies that $T_x = T_y$

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

- (1) Both (A) and (R) are correct and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are correct but (R) is NOT the correct explanation of (A)
- (3) (A) is correct but (R) is not correct
- (4) (A) is not correct but (R) is correct

Options :

92090632917. 1

92090632918. 2

92090632919. 3

92090632920. 4

Question Number : 30 Question Id : 9209068329 Question Type : MCQ Option Shuffling : No 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 : जीरथ ने सुझाया जब दो तन्त्र तथा तापीय सन्तुलन मे हो तब एक भौतिक मात्रा मे उनके लिये समान माप ही चाहिए।

कारण R : यदि Y तथा Y अलग से Z के साथ सन्तुलन मे है, $T_x = T_z$ तथा $T_y = T_z$ इसका तात्पर्य है $T_x = T_y$

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, लेकिन R, A की सही व्याख्या नहीं है
- (3) A सही हैं, लेकिन R सही नहीं है
- (4) A सही नहीं हैं, लेकिन R सही है

Options :

92090632917. 1
92090632918. 2
92090632919. 3
92090632920. 4

Question Number : 31 Question Id : 9209068330 Question Type : MCQ Option Shuffling : No 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 : HER 2, is a type of receptor tyrosine kinase involved in regulating cell growth and division in breast cancer.

Statement II : Treatment with Herceptin for HER 2 subtype involves binding of Herceptin to HER 2 receptors in place of the usual signaling molecular where signaling blocked and excessive cell division does not occur.

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 correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Options :

92090632921. 1
92090632922. 2
92090632923. 3

Question Number : 31 Question Id : 9209068330 Question Type : MCQ Option Shuffling : No 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 : HER 2 ब्रेस्ट कैंसर में एक थायरोसीन काइनेस प्रकार का ग्राह्यक है जो कोशिका वृद्धि तथा विभाजन नियामक का कार्य करता है।

कथन II : HER 2 उपप्रकार के ट्रिटमेंट में हरसेप्टिन, HER 2 ग्राह्यको से उसके नियमित संदेशक अणुओं के स्थान पर जुड़ता है जहाँ संदेशन तथा अतिरिक्त कोशिका विभाजन रुक जाता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए:

- (1) कथन I और II दोनों सत्य हैं
- (2) कथन I और II दोनों असत्य हैं
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

Options :

92090632921. 1

92090632922. 2

92090632923. 3

92090632924. 4

Question Number : 32 Question Id : 9209068331 Question Type : MCQ Option Shuffling : No 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 most acidic compound from the following is:

- | | |
|-----------------------------|-------------------------------|
| (1) Cl_2O_7 | (2) P_4O_{10} |
| (3) SO_3 | (4) B_2O_3 |

Options :

92090632925. 1

92090632926. 2

92090632927. 3

92090632928. 4

Question Number : 32 Question Id : 9209068331 Question Type : MCQ Option Shuffling : No 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 सर्वाधिक अम्लीय पदार्थ का चयन करे

- | | |
|-----------------------------|-------------------------------|
| (1) Cl_2O_7 | (2) P_4O_{10} |
| (3) SO_3 | (4) B_2O_3 |

Options :

92090632925. 1
92090632926. 2
92090632927. 3
92090632928. 4

Question Number : 33 Question Id : 9209068332 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Hall effect is useful in determining which property of semiconductor materials:

- (1) Resistance of semiconductor
(2) Capacitance of semiconductor
(3) Types of semiconductor, n-type or p-type
(4) Fermi energy level

Options :

92090632929. 1
92090632930. 2
92090632931. 3
92090632932. 4

Question Number : 33 Question Id : 9209068332 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

हाल प्रभाव अर्धचालक पदार्थों के किस गुण के निर्धारण में सहायक है।

- | | |
|--|------------------------|
| (1) अर्ध-चालक का प्रतिरोध | (2) अर्धचालक की धारिता |
| (3) अर्धचालक का प्रकार, n-प्रकार या p-प्रकार | (4) फर्मी ऊर्जा स्तर |

Options :

92090632929. 1
92090632930. 2
92090632931. 3
92090632932. 4

Question Number : 34 Question Id : 9209068333 Question Type : MCQ Option Shuffling : No 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 oligonucleotides of size 250 bp, 180 bp, 500 bp and 100 bp are separated on agarose gel using agarose gel electrophoresis. The oligonucleotide that will be on second last position is:

- | | |
|------------|------------|
| (1) 100 bp | (2) 180 bp |
| (3) 250 bp | (4) 500 bp |

Options :

- 92090632933. 1
- 92090632934. 2
- 92090632935. 3
- 92090632936. 4

Question Number : 34 Question Id : 9209068333 Question Type : MCQ Option Shuffling : No 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 250 bp, 180 bp, 500 bp तथा 100 bp आकार को आलिगोन्यूक्लियोटाइड को जेल इलेक्ट्रोफोरेसिस द्वारा प्रथक किया जाता है तब अन्तिम से पूर्व वाले स्थान पर निम्न आलिगोन्यूक्लियोटाइड होगा।

- | | |
|------------|------------|
| (1) 100 bp | (2) 180 bp |
| (3) 250 bp | (4) 500 bp |

Options :

- 92090632933. 1
- 92090632934. 2
- 92090632935. 3
- 92090632936. 4

Question Number : 35 Question Id : 9209068334 Question Type : MCQ Option Shuffling : No 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 correct statement(s) from the following:

- (A) Complex reactions are always zero order
- (B) The higher the activation energy, stronger is the temperature dependence of the rate constant.
- (C) The lower the activation energy stronger is the temperature dependence of the rate constant.
- (D) The catalyst avoids the slow, rate-determining step of the uncatalyzed reaction.

Choose the correct answer from the options given below :

- (1) (A) & (B) only
- (2) (B) only
- (3) (C) only
- (4) (B) & (D) only

Options :

92090632937. 1

92090632938. 2

92090632939. 3

92090632940. 4

Question Number : 35 Question Id : 9209068334 Question Type : MCQ Option Shuffling : No 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 सही कथन का चयन करें।

- (A) जटिल क्रियाये सदैव शून्य आर्डर की होती है।
- (B) उच्च उत्तेजन ऊर्जा होने पर दर स्थिरांक की ताप निर्भरता अधिक होगी।
- (C) निम्न उत्तेजन ऊर्जा होने पर दर स्थिरांक की ताप निर्भरता अधिक होगी।
- (D) अनुत्प्रेरित क्रिया में उत्प्रेरक धीमी गति निर्धारक से बचता है।

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

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

Options :

92090632937. 1

92090632938. 2

92090632939. 3

Question Number : 36 Question Id : 9209068335 Question Type : MCQ Option Shuffling : No 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) : First law of Thermodynamics states that $\Delta V = \Delta Q + \Delta W$

Where ΔQ = Heat supplied to the system by surroundings

ΔW = Work Done by the system

ΔV = Change in internal energy

Reasons (R) : According to Ist of Thermodynamics All the amount of Heat given can be converted into work and all work can be converted into Heat for Iso thermal process in Ideal gas $\Delta Q = \Delta W$.

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

- (1) Both (A) and (R) are correct and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are correct but (R) is NOT the correct explanation of (A)
- (3) (A) is correct but (R) is not correct
- (4) (A) is not correct but (R) is correct

Options :

92090632941. 1

92090632942. 2

92090632943. 3

92090632944. 4

Question Number : 36 Question Id : 9209068335 Question Type : MCQ Option Shuffling : No 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 : तापगतिकी का प्रथम नियम कहता है

$$\Delta U = \Delta Q + \Delta W$$

जहाँ ΔQ = बाहर से तन्त्र को गयी ऊष्मा

ΔW = तन्त्र द्वारा किया गया कार्य

ΔU = आन्तरिक ऊर्जा में बदलाव

कारण R : ताप गतिकी के प्रथम नियम अनुसार दी गयी ऊष्मा की सारी मात्रा कार्य के बदली जा सकती है।
आदीश गैस में समतापिय अवस्था में सारा कार्य ऊष्मा में बदला जा सकता है। $\Delta Q = \Delta W$

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, लेकिन 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 :

92090632941. 1

92090632942. 2

92090632943. 3

92090632944. 4

Question Number : 37 Question Id : 9209068336 Question Type : MCQ Option Shuffling : No 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) : Membrane bound cell organelles like endoplasmic reticulum, Golgi apparatus and lysosomes are considered together as endomembrane system.

Reasons (R) : Cell organelles belonging to endomembrane system have similar structure and function

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

- (1) Both (A) and (R) are correct and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are correct but (R) is NOT the correct explanation of (A)
- (3) (A) is correct but (R) is not correct
- (4) (A) is not correct but (R) is correct

Options :

- 92090632945. 1
- 92090632946. 2
- 92090632947. 3
- 92090632948. 4

Question Number : 37 Question Id : 9209068336 Question Type : MCQ Option Shuffling : No 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 : झिल्ली से जुड़े कोशिका अंगक जैसे एंडोप्लास्मिक रेटीक्यूलम, गाल्जी एपरेटस तथा लायसोसोम को समग्र रूप में अंतः झिल्ली तन्त्र कहा जाता है।

कारण R : अंतःझिल्ली तन्त्र से सम्बंध कोशिका अंगक कार्य तथा संरचना में समान होते हैं।

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

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

Options :

- 92090632945. 1
- 92090632946. 2
- 92090632947. 3
- 92090632948. 4

Question Number : 38 Question Id : 9209068337 Question Type : MCQ Option Shuffling : No 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 compound not having (S-S) bond is:

- | | |
|--------------------------------------|--------------------------------------|
| (1) $\text{H}_2\text{S}_2\text{O}_6$ | (2) S_4N_2 |
| (3) $\text{H}_2\text{S}_2\text{O}_7$ | (4) $\text{H}_2\text{S}_2\text{O}_5$ |

Options :

- 92090632949. 1
- 92090632950. 2
- 92090632951. 3
- 92090632952. 4

Question Number : 38 Question Id : 9209068337 Question Type : MCQ Option Shuffling : No 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 – S बन्ध न होने वाले पदार्थ का चयन करें -

- | | |
|--------------------------------------|--------------------------------------|
| (1) $\text{H}_2\text{S}_2\text{O}_6$ | (2) S_4N_2 |
| (3) $\text{H}_2\text{S}_2\text{O}_7$ | (4) $\text{H}_2\text{S}_2\text{O}_5$ |

Options :

92090632949. 1
92090632950. 2
92090632951. 3
92090632952. 4

Question Number : 39 Question Id : 9209068338 Question Type : MCQ Option Shuffling : No 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 Resistance of Extrinsic semiconductor p-n junction Diode varies with forward voltage as :

- (1) Decrease with forward voltage increase
- (2) Increase with forward voltage increase
- (3) Independent of forward voltage
- (4) First increase and then constant with forward voltage

Options :

92090632953. 1
92090632954. 2
92090632955. 3
92090632956. 4

Question Number : 39 Question Id : 9209068338 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

बाह्य अर्धचालक p-n कार्य डायोड का प्रतिरोध अग्र वोल्टेज के साथ निम्न रूप में बदलता है।

- (1) अग्र वोल्टेज वृद्धि के साथ घटता है।
- (2) अग्र वोल्टेज वृद्धि के साथ बढ़ता है।
- (3) अग्र वोल्टेज पर निर्भर नहीं होता है।
- (4) पहले बढ़ता है तथा फिर अग्र वोल्टेज के साथ स्थिर हो जाता है।

Options :

92090632953. 1
92090632954. 2
92090632955. 3
92090632956. 4

Question Number : 40 Question Id : 9209068339 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Bacteria can protect themselves from invading viral infection through viral DNA by the action of enzyme:

- | | |
|-------------------------------|--------------------------|
| (1) Ligases | (2) Alkaline Phosphatase |
| (3) Restriction Endonucleases | (4) Hydrolase |

Options :

92090632957. 1
92090632958. 2
92090632959. 3
92090632960. 4

Question Number : 40 Question Id : 9209068339 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

जीवाणु आक्रान्ता विषाणु के विषाणु DNA माध्यम में इन्फेक्शन से स्वयं को निम्न एन्जाइम के प्रभाव से बचाता है।

- | | |
|----------------------------------|------------------------|
| (1) लाइगोस | (2) एल्केलाइन फास्फटेस |
| (3) रेस्ट्रिक्शन एन्डोन्यूक्लिएस | (4) हायड्रोलेस |

Options :

92090632957. 1
92090632958. 2
92090632959. 3
92090632960. 4

Question Number : 41 Question Id : 9209068340 Question Type : MCQ Option Shuffling : No 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) : Based on molecular orbital approach for both CO and NO⁺, the bond order is 2.5

Reasons (R) : CO and NO⁺ are isoelectronic species.

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

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true but (R) is NOT the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options :

92090632961. 1

92090632962. 2

92090632963. 3

92090632964. 4

Question Number : 41 Question Id : 9209068340 Question Type : MCQ Option Shuffling : No 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 : आण्विक अक्षक विचार के अनुसार CO तथा NO^+ दोनों का बन्ध क्रम 2.5 है।

कारण R : CO तथा NO^+ समइलेक्ट्रनिय प्रजित 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, लेकिन 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 :

92090632961. 1

92090632962. 2

92090632963. 3

92090632964. 4

Question Number : 42 Question Id : 9209068341 Question Type : MCQ Option Shuffling : No 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) : Silicon and Germanium are both Indirect Band gap semiconductor materials.

Reasons (R) : The position of Fermi energy level in Silicon and Germanium semiconductor are below valance Band at Temperature $T=0^\circ \text{C}$

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

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true but (R) is NOT the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options :

- 92090632965. 1
- 92090632966. 2
- 92090632967. 3
- 92090632968. 4

Question Number : 42 Question Id : 9209068341 Question Type : MCQ Option Shuffling : No 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 : सिलिकान तथा जिरेनियम दोनों अप्रत्यक्ष अन्तराल बन्ध अर्धचालक पदार्थ है।

कारण R : सिलिकान तथा जिरेनियम अर्धचालक मे फर्मी ऊर्जा स्तर का भाग तापमान $T = 0^{\circ}\text{C}$ पर 'वेलन्स' बन्ध से नीचे 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, लेकिन R, A की सही व्याख्या नहीं है
- (3) A सही हैं, लेकिन R सही नहीं है
- (4) A सही नहीं हैं, लेकिन R सही है

Options :

- 92090632965. 1
- 92090632966. 2
- 92090632967. 3
- 92090632968. 4

Question Number : 43 Question Id : 9209068342 Question Type : MCQ Option Shuffling : No 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 correct sequence of functional directionality in Golgi apparatus is:

- (A) Vesicles form and leave Golgi carrying certain products to other locations.
- (B) Cisternal maturation, Golgi cisternae move in a cis to trans direction.
- (C) Vesicles move from ER to Golgi.
- (D) Vesicles transport some proteins backward to less mature Golgi cisternae, where they function.
- (E) Vesicles coalesce to form new cis Golgi cisternae

Choose the correct answer from the options given below :

- (1) $C \rightarrow E \rightarrow B \rightarrow D \rightarrow A$
- (2) $C \rightarrow E \rightarrow B \rightarrow A \rightarrow D$
- (3) $C \rightarrow E \rightarrow A \rightarrow B \rightarrow D$
- (4) $B \rightarrow C \rightarrow E \rightarrow A \rightarrow D$

Options :

- 92090632969. 1
- 92090632970. 2
- 92090632971. 3
- 92090632972. 4

Question Number : 43 Question Id : 9209068342 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

गाल्जी उपकरण की क्रियात्मक दिशावादिता का सही क्रम चयन करे

- A. पुट्टिका गोल्जी मे बनती तथा उसे छोड देती है, कुछ उत्पादो को लेकर अन्य स्थानो के लिए।
- B. सिस्टर्नल परिपक्वन, गाल्जी सिस्टर्न सिस से ट्रांस दिशा मे बढ़ता है।
- C. पुट्टिका ER से गोल्जी की ओर बढ़ती है।
- D. पुट्टिका कुछ प्रोटॉन को वापस कम परिपक्व गोल्जी सस्टर्नो पर लाती है जहा वे कार्य करती है।
- E. पुट्टिका संलयित होकर नयी सिस गाल्जी सिस्टर्न बनाती है।

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

- (1) $C \rightarrow E \rightarrow B \rightarrow D \rightarrow A$
- (2) $C \rightarrow E \rightarrow B \rightarrow A \rightarrow D$
- (3) $C \rightarrow E \rightarrow A \rightarrow B \rightarrow D$
- (4) $B \rightarrow C \rightarrow E \rightarrow A \rightarrow D$

Options :

- 92090632969. 1
- 92090632970. 2
- 92090632971. 3
- 92090632972. 4

Question Number : 44 Question Id : 9209068343 Question Type : MCQ Option Shuffling : No 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 band having minimum bond energy is :

- | | |
|---------|---------|
| (1) C-C | (2) O-O |
| (3) S-S | (4) P-P |

Options :

- 92090632973. 1
- 92090632974. 2
- 92090632975. 3
- 92090632976. 4

Question Number : 44 Question Id : 9209068343 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नतम बन्ध ऊर्जा वाले बन्ध का चयन करे -

- | | |
|-----------|-----------|
| (1) C — C | (2) O — O |
| (3) S — S | (4) P — P |

Options :

- 92090632973. 1
- 92090632974. 2
- 92090632975. 3
- 92090632976. 4

Question Number : 45 Question Id : 9209068344 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Fermi energy of an electron in free electron gas at absolute zero temperature depends on temperature as

- | | |
|--------------------------------|--|
| (1) $E_F \propto T^{3/2}$ | (2) $\Sigma_F \propto T^{1/2}$ |
| (3) $\Sigma_F \propto T^{5/2}$ | (4) Σ_F Independent on temprature |

Options :

92090632977. 1
92090632978. 2
92090632979. 3
92090632980. 4

Question Number : 45 Question Id : 9209068344 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

मुक्त इलेक्ट्रान गैस में इलेक्ट्रान की फर्मी ऊर्जा परम शून्य तापमान पर निम्न रूप से निर्भर होती है।

- | | |
|--------------------------------|--------------------------------------|
| (1) $E_F \propto T^{3/2}$ | (2) $\Sigma_F \propto T^{1/2}$ |
| (3) $\Sigma_F \propto T^{5/2}$ | (4) Σ_F तापमान पर निर्भर नहीं |

Options :

92090632977. 1
92090632978. 2
92090632979. 3
92090632980. 4

Question Number : 46 Question Id : 9209068345 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Fluid mosaic model explains the structure of plasma membrane, according to this model the component of it which is quasifluid in nature is:

- | | |
|---------------------------|------------------------------|
| (1) Lipid | (2) Protein |
| (3) Only integral protein | (4) Only peripheral proteins |

Options :

92090632981. 1
92090632982. 2
92090632983. 3
92090632984. 4

Question Number : 46 Question Id : 9209068345 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

'फ्लुइड मोसेक मॉडल' प्लास्मा झिल्ली की संरचना को वर्णित करता है। इस मॉडल के अनुसार इसका छद्मतरल अवस्था में रहने वाला धरक है।

- | | |
|---------------------------|----------------------------|
| (1) वसा | (2) प्रोटोन |
| (3) मात्र इटीग्रल प्रोटीन | (4) मात्र पेरीफेरल प्रोटीन |

Options :

92090632981. 1
92090632982. 2
92090632983. 3
92090632984. 4

Question Number : 47 Question Id : 9209068346 Question Type : MCQ Option Shuffling : No 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 vapour pressure of a liquid in a closed vessel depends on:

- (A) Quantity of the liquid.
(B) Temperature of the liquid.
(C) Surface area of the liquid.
(D) Boiling temperature of the liquid.

Choose the correct answer from the options given below :

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

Options :

92090632985. 1
92090632986. 2
92090632987. 3
92090632988. 4

Question Number : 47 Question Id : 9209068346 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

किसी बन्द 'वेसल' मे तरल का बाष्प दाब निम्न पर निर्भर करता है।

- A. तरल की मात्रा
- B. तरल का तापमान
- C. तरल का सतह क्षेत्रफल
- D. तरल का क्वथनांक

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

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

Options :

- 92090632985. 1
- 92090632986. 2
- 92090632987. 3
- 92090632988. 4

**Question Number : 48 Question Id : 9209068347 Question Type : MCQ Option Shuffling : No 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 : Heterojunction Bipolar transistor (HBT) is more efficient than Bipolar junction transistor (BJT) in High frequency range.

Statement II : Heterojunction Bipolar transistor have heavily Doped base region and a lightly Doped emitter region just opposite of BJT.

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 :

- 92090632989. 1
- 92090632990. 2
- 92090632991. 3
- 92090632992. 4

Question Number : 48 Question Id : 9209068347 Question Type : MCQ Option Shuffling : No 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 : विषमकार्यी द्विध्रुवीय ट्रांजिस्टर (BJT) द्विध्रुवीय कार्यीय ट्रांजिस्टर (BJT) से उच्च आवृत्ति दायरे में अधिक सक्षम है।

कथन II : विषमकार्यी द्विध्रुवीय ट्रांजिस्टर में उच्च 'डोप्ड' आधार क्षेत्र होता है तथा एक निम्नीय 'डोप्ड' उत्सर्धक क्षेत्र BJT के एकदम विपरीत में होता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए:

- (1) कथन I और II दोनों सत्य हैं
- (2) कथन I और II दोनों असत्य हैं
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

Options :

- 92090632989. 1
- 92090632990. 2
- 92090632991. 3
- 92090632992. 4

Question Number : 49 Question Id : 9209068348 Question Type : MCQ Option Shuffling : No 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 : Normal clotting depends on adequate level of vitamin K in the body.

Statement II : Vitamin 'k' is a fat-insoluble vitamin.

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 :

- 92090632993. 1
- 92090632994. 2
- 92090632995. 3
- 92090632996. 4

Question Number : 49 Question Id : 9209068348 Question Type : MCQ Option Shuffling : No 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 : सामान्य थक्का जमने कि क्रिया शरीर मे विटामिन-K के समुचित स्तर पर निर्भर करता है।

कथन II : विटामिन-K वसा अंधुलनशील विटमीन है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तरका चयन कीजिए:

- (1) कथन I और II दोनों सत्य है
- (2) कथन I और II दोनों असत्य है
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

Options :

92090632993. 1

92090632994. 2

92090632995. 3

92090632996. 4

Question Number : 50 Question Id : 9209068349 Question Type : MCQ Option Shuffling : No Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Pair of hard acid and soft acid respectively are:

- | | |
|--|---|
| (1) Li^+ and Fe^{3+} | (2) Be^{2+} and Al^{3+} |
| (3) Ag^+ and Hg^{2+} | (4) Be^{2+} and Pd^{2+} |

Options :

92090632997. 1

92090632998. 2

92090632999. 3

92090633000. 4

Question Number : 50 Question Id : 9209068349 Question Type : MCQ Option Shuffling : No Is

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

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

कठोर अम्ल तथा नर्म अम्ल का जोड़ा क्रमश है -

- | | |
|--|---|
| (1) Li^+ तथा Fe^{3+} | (2) Be^{2+} तथा Al^{3+} |
| (3) Ag^+ तथा Hg^{2+} | (4) Be^{2+} तथा Pd^{2+} |

Options :

92090632997. 1
92090632998. 2
92090632999. 3
92090633000. 4

Question Number : 51 Question Id : 9209068350 Question Type : MCQ Option Shuffling : No 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 fermi energy of a metal does not depend upon:

- (1) Number of free electrons in the metal.
- (2) Volume of the metal.
- (3) Size of the metal.
- (4) Density of free electron in the metal.

Options :

92090633001. 1
92090633002. 2
92090633003. 3
92090633004. 4

Question Number : 51 Question Id : 9209068350 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

धातु की मुक्त ऊर्जा निम्न पर निर्भर नहीं है।

- | | |
|--|---------------------------------------|
| (1) धातु में मुक्त श्लोकट्रम की संख्या | (2) धातु का आयतन |
| (3) धातु का आकार | (4) धातु के युक्त इलेक्ट्रान का घनत्व |

Options :

92090633001. 1
92090633002. 2
92090633003. 3
92090633004. 4

Question Number : 52 Question Id : 9209068351 Question Type : MCQ Option Shuffling : No 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 lack's Major Histocompatibility Complex (MHC) antigen

- | | |
|------------------|-----------------|
| (1) Lymphocytes | (2) Monocytes |
| (3) Erythrocytes | (4) Neutrophils |

Options :

- 92090633005. 1
- 92090633006. 2
- 92090633007. 3
- 92090633008. 4

Question Number : 52 Question Id : 9209068351 Question Type : MCQ Option Shuffling : No 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 प्रमुख अंतकसुसंगति प्रतिजन (MHC) का अभाव होता है।

- | | |
|-------------------|-------------------|
| (1) लिम्फोसाइट्स | (2) मोनोसाइट्स |
| (3) एरीथ्रोसाइट्स | (4) न्यूट्रोफिल्स |

Options :

- 92090633005. 1
- 92090633006. 2
- 92090633007. 3
- 92090633008. 4

Question Number : 53 Question Id : 9209068352 Question Type : MCQ Option Shuffling : No 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 some molecules/species. Arrange them in increasing order of bond order.

- A. N_2
- B. O_2
- C. N_2^-
- D. O_2^-
- E. O_2^{2-}

Choose the correct answer from the options given below :

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

Options :

- 92090633009. 1
- 92090633010. 2
- 92090633011. 3
- 92090633012. 4

Question Number : 53 Question Id : 9209068352 Question Type : MCQ Option Shuffling : No 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 दिये गये कुछ अणुओं प्रजाति को उनके बन्धक्रम के बढ़ते क्रम में आयोजित करें -

- A. N_2
- B. O_2
- C. N_2^-
- D. O_2^-
- E. O_2^{2-}

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

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

Options :

- 92090633009. 1
- 92090633010. 2
- 92090633011. 3

Question Number : 54 Question Id : 9209068353 Question Type : MCQ Option Shuffling : No 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 : Light Emitting Diode (LEDs) are made up of Direct Band Gap semiconductor materials.

Statement II : Light emission is most efficient for Direct materials in which electron can drop from conduction band to valence band without changing k (propagation constant)

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 correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Options :

92090633013. 1

92090633014. 2

92090633015. 3

92090633016. 4

Question Number : 54 Question Id : 9209068353 Question Type : MCQ Option Shuffling : No 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 : प्रकाश उत्सर्जक डायोड का निर्माण सापेक्ष बन्धीय अंतराल अर्धचालक पदार्थ से होता है।

कथन II : प्रकाश उत्सर्जन सापेक्ष पदार्थों में सर्वाधिक दक्ष सापेक्ष पदार्थों में होगा। जिसके इलेक्ट्रान सवहन बन्ध से गिरकर वेल्स बन्ध पर बिना (K प्रवाहण स्थिरांक) बदले आते हैं।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए:

- (1) कथन I और II दोनों सत्य हैं
- (2) कथन I और II दोनों असत्य हैं
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

Options :

92090633013. 1

92090633014. 2

92090633015. 3

92090633016. 4

Question Number : 55 Question Id : 9209068354 Question Type : MCQ Option Shuffling : No 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 hormone Melatonin contributes to the setting of biological clock of the body.

Statement II : It is liberated in the body in response to visual input from the eye (retina).

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 :

- 92090633017. 1
- 92090633018. 2
- 92090633019. 3
- 92090633020. 4

Question Number : 55 Question Id : 9209068354 Question Type : MCQ Option Shuffling : No 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 : मिलेटानिन हार्मोन शरीर के जैव घड़ी को स्थापित करने में योगदान करती है।

कथन II : यह शरीर में आंख (रेटिना) से दृश्य इनपुट पाकर निकलता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए:

- (1) कथन I और II दोनों सत्य हैं
- (2) कथन I और II दोनों असत्य हैं
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

Options :

- 92090633017. 1
- 92090633018. 2
- 92090633019. 3
- 92090633020. 4

Question Number : 56 Question Id : 9209068355 Question Type : MCQ Option Shuffling : No 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 solvent useful to differentiate between acids and also used for Level of bases is:

- | | |
|------------------------------|-------------------------------|
| (1) NH_3 | (2) Hydrazine |
| (3) CH_3COOH | (4) H_3COHH_2 |

Options :

- 92090633021. 1
- 92090633022. 2
- 92090633023. 3
- 92090633024. 4

Question Number : 56 Question Id : 9209068355 Question Type : MCQ Option Shuffling : No 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 विलायक जो अम्लो में भेद करने तथा क्षारो के स्तर के लिये महत्वपूर्ण है का चयन करे

- | | |
|--------------------------------|---------------------------------|
| (1) NH_3 | (2) हायड्रोजीन |
| (3) $\text{NH}_3 \text{ COOH}$ | (4) $\text{H}_3\text{C CONH}_2$ |

Options :

92090633021. 1
92090633022. 2
92090633023. 3
92090633024. 4

Question Number : 57 Question Id : 9209068356 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

To study crystal structure of radiation employed is :

- | | |
|---------------|------------------|
| (1) Infra-Red | (2) Visible |
| (3) X-rays | (4) Ultra violet |

Options :

92090633025. 1
92090633026. 2
92090633027. 3
92090633028. 4

Question Number : 57 Question Id : 9209068356 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

किसी क्रिस्टल की संरचना में प्रयुक्त विकिरण, निम्न है।

- | | |
|------------|---------------|
| (1) अवरक्त | (2) दृश्यव्यी |
| (3) X-रे | (4) पराबैंगनी |

Options :

92090633025. 1
92090633026. 2
92090633027. 3
92090633028. 4

Question Number : 58 Question Id : 9209068357 Question Type : MCQ Option Shuffling : No 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 properties which are lost during auto immunity are:

- (A) Memory
- (B) Ability to differentiate between self and non self cells
- (C) Intensified secondary response
- (D) Prevention of response to self antigens
- (E) Activity of regulatory T cells

Choose the correct answer from the options given below :

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

Options :

92090633029. 1

92090633030. 2

92090633031. 3

92090633032. 4

Question Number : 58 Question Id : 9209068357 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

स्वंप्रतिरोधिता में निम्न गुणों का लोप हो जाता है।

- A. स्मृति
- B. स्व तथा पर कोशिका में विभेद की क्षमता
- C. तरल का सतह क्षेत्रफल
- D. स्वप्रतिजन के प्रति उत्तर को रोकने की
- E. T. कोशिका नियंत्रण की

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

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

Options :

- 92090633029. 1
- 92090633030. 2
- 92090633031. 3
- 92090633032. 4

Question Number : 59 Question Id : 9209068358 Question Type : MCQ Option Shuffling : No 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 (Compound)	List II (Geometry)
(A) BF_3	(I) Octahedral
(B) XeF_2	(II) Pentagonal bipyramid
(C) IF_7	(III) Trigonal planar
(D) WF_6	(IV) Linear

Choose the correct answer from the options given below:

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

Options :

- 92090633033. 1
- 92090633034. 2

92090633035. 3

92090633036. 4

Question Number : 59 Question Id : 9209068358 Question Type : MCQ Option Shuffling : No 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 के साथ सूची II का मिलान कीजिए :

सूची-I	सूची-II
(A) BF_3	(I) अष्टफलकीय
(B) XeF_2	(II) पंचफलकीय द्विपिरामीड
(C) IF_7	(III) त्रिफलक रेखीय
(D) WF_6	(IV) रेखीय

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

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

Options :

92090633033. 1

92090633034. 2

92090633035. 3

92090633036. 4

Question Number : 60 Question Id : 9209068359 Question Type : MCQ Option Shuffling : No 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 electron near the top of valence bond have regulative effective mass.

Reasons (R) : d^2E/dk^2 is negative at the valence Bond maxima.

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

- (1) Both (A) and (R) are correct and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are correct but (R) is NOT the correct explanation of (A)
- (3) (A) is correct but (R) is not correct
- (4) (A) is not correct but (R) is correct

Options :

- 92090633037. 1
- 92090633038. 2
- 92090633039. 3
- 92090633040. 4

Question Number : 60 Question Id : 9209068359 Question Type : MCQ Option Shuffling : No 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 : वेलेन्स बन्ध के समीप इलेक्ट्रान का प्रभावी भार नकारात्मक होता है।

कारण R : $\frac{d^2E}{dk^2}$ किसी वेलेन्स बंध दीर्घतम पर नकारात्मक 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, लेकिन 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 :

- 92090633037. 1
- 92090633038. 2
- 92090633039. 3

Question Number : 61 Question Id : 9209068360 Question Type : MCQ Option Shuffling : No 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 : IgE is involved in allergic and hypersensitivity reactions.

Statement II : IgE is the most abundant antibody of all antibodies.

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 :

- 92090633041. 1
- 92090633042. 2
- 92090633043. 3
- 92090633044. 4

Question Number : 61 Question Id : 9209068360 Question Type : MCQ Option Shuffling : No 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 : IgE स्लर्जी तथा आति सुग्राहिता क्रियाओ में सम्मिलित होती है।

कथन II : IgE प्रतिजन सभी प्रतिजनो में सबसे व्यापक होता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तरका चयन कीजिए:

- (1) कथन I और II दोनों सत्य हैं
- (2) कथन I और II दोनों असत्य हैं
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

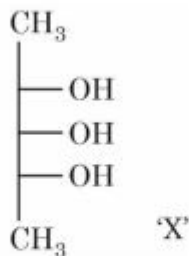
Options :

92090633041. 1
92090633042. 2
92090633043. 3
92090633044. 4

Question Number : 62 Question Id : 9209068361 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Number of stereoisomers possible for the given representation 'X' is :



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

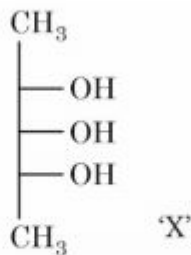
Options :

92090633045. 1
92090633046. 2
92090633047. 3
92090633048. 4

Question Number : 62 Question Id : 9209068361 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

दिये गये 'X' प्रतिनिधि की संभावी त्रिविमसंयोजकता हो सकते है।



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

Options :

92090633045. 1

92090633046. 2

92090633047. 3

92090633048. 4

Question Number : 63 Question Id : 9209068362 Question Type : MCQ Option Shuffling : No 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 Distance between nearest neighbours in a BCC lattice in terms of lattice constant a , is given as:

- | | |
|--------------------------|---------------------------|
| (1) a | (2) $\frac{\sqrt{3}}{2}a$ |
| (3) $\frac{a}{\sqrt{2}}$ | (4) $\frac{a}{2}$ |

Options :

92090633049. 1

92090633050. 2

92090633051. 3

92090633052. 4

Question Number : 63 Question Id : 9209068362 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

समीपस्थ पड़ोसीयो के एक BCC जाली में, जाली स्थिरांक निम्न रूप में दिया जाता है।

- | | |
|--------------------------|---------------------------|
| (1) a | (2) $\frac{\sqrt{3}}{2}a$ |
| (3) $\frac{a}{\sqrt{2}}$ | (4) $\frac{a}{2}$ |

Options :

92090633049. 1

92090633050. 2

92090633051. 3

92090633052. 4

Question Number : 64 Question Id : 9209068363 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Heparin and histamine are released by:

- | | |
|-----------------|-----------------|
| (1) Eosinophils | (2) Lymphocytes |
| (3) Basophils | (4) Neutrophils |

Options :

92090633053. 1
92090633054. 2
92090633055. 3
92090633056. 4

Question Number : 64 Question Id : 9209068363 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

हिपेरिन तथा हस्टोन निम्न द्वारा छोडे जाते है।

- | | |
|---------------|-----------------|
| (1) इओसिनोफिल | (2) लिम्फोसायट |
| (3) बेसोफिल | (4) न्यूट्रोफिल |

Options :

92090633053. 1
92090633054. 2
92090633055. 3
92090633056. 4

Question Number : 65 Question Id : 9209068364 Question Type : MCQ Option Shuffling : No 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 : μ_{eff} for $(\text{COF}_6)^{4-}$ complex is 3.89 Bm.

Statement II : Magnetic moment for the pair of complex ions $[\text{Co}(\text{H}_2\text{O})_6]^{3+}$ and $[\text{NiF}_6]^{2-}$ will be same.

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 :

- 92090633057. 1
- 92090633058. 2
- 92090633059. 3
- 92090633060. 4

Question Number : 65 Question Id : 9209068364 Question Type : MCQ Option Shuffling : No 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 : $(\text{COF}_6)^{4-}$ समुह आयन के लिये अरफ

कथन II : जटिल आयन समूह $[\text{Co}(\text{H}_2\text{O})_6]^{3+}$ तथा $[\text{NiF}_6]^{2-}$ जोड़े के लिये चुम्बकीय चरण समान होगा।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए:

- (1) कथन I और II दोनों सत्य हैं
- (2) कथन I और II दोनों असत्य हैं
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

Options :

- 92090633057. 1
- 92090633058. 2
- 92090633059. 3
- 92090633060. 4

Question Number : 66 Question Id : 9209068365 Question Type : MCQ Option Shuffling : No 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 electron near the bottom of conduction Band have positive effective mass.

Statement II : The curvature of d^2E/dk^2 is positive at conduction Band maxima.

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 correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Options :

- 92090633061. 1
- 92090633062. 2
- 92090633063. 3
- 92090633064. 4

Question Number : 66 Question Id : 9209068365 Question Type : MCQ Option Shuffling : No 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 : निचले संवहन बन्ध के समी इलेक्ट्रॉन में प्रभावि प्रभावि धनात्मक द्रव्यमान होता है।

कथन II : $\frac{d^2E}{dK^2}$ का कक्र दीर्घतम पर संवहन बंध सकारात्मक होगा।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तरका चयन कीजिए:

- (1) कथन I और II दोनों सत्य हैं
- (2) कथन I और II दोनों असत्य हैं
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

Options :

92090633061. 1
92090633062. 2
92090633063. 3
92090633064. 4

Question Number : 67 Question Id : 9209068366 Question Type : MCQ Option Shuffling : No 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 correct statement regarding Enzyme Inhibition are:

- (A) When the inhibitors bind/attaches to the enzyme by covalent bonds, the inhibition is irreversible.
- (B) When the inhibitors bind to the enzyme by weak interaction causing reversible inhibition.
- (C) A non-competitive inhibition binds on the active site, altering the shape of enzyme and active sites are not available for substrates.
- (D) Competitive inhibitors directly compete with the substrate to bind to the enzyme.
- (E) Competitive inhibitors mimics the substrate, competing for the active site.

Choose the correct answer from the options given below :

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

Options :

92090633065. 1
92090633066. 2
92090633067. 3

Question Number : 67 Question Id : 9209068366 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

एन्जाइम संदमन के क्रम में सही कथन का चयन करें।

- A. जब सदमक एन्जाइम से कोवेलेंट बन्ध द्वारा जुड़ता है सदमन अनुक्रमणीय होता है।
- B. जब एन्जाइम से सदमक क्षीण क्रियाशील बन्ध से जुड़ता है। तो द्वितरफा सदमंत करता है।
- C. एक अप्रतियोगी सदमक सक्रिय स्थान पर जुड़ता है, तथा एजाइम के आकार को बदलता है और एन्जाइम की सक्रिय साइट क्रियाधर के लिए उपलब्ध नहीं होती है।
- D. प्रतियोगी सदमक सीधे क्रियाधर, एन्जाइम से जुड़ने हेतु प्रतियोगिता करता है।
- E. प्रतियोगी सदमक क्रियाधर की नकल कर सक्रिय स्थान पर जुड़ने को प्रतियोगिता करता है।

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

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

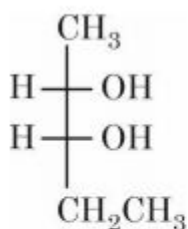
Options :

- 92090633065. 1
- 92090633066. 2
- 92090633067. 3
- 92090633068. 4

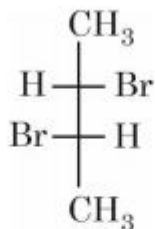
Question Number : 68 Question Id : 9209068367 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

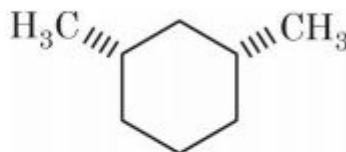
Given below are three compounds A, B and C. Meso form compound(s) is/are:



(A)



(B)



(C)

- (1) (A) only
- (2) (C) only
- (3) (B) & (C) only
- (4) (B) only

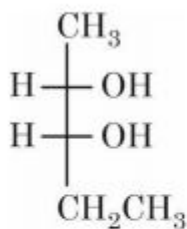
Options :

92090633069. 1
92090633070. 2
92090633071. 3
92090633072. 4

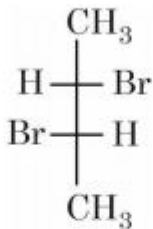
Question Number : 68 Question Id : 9209068367 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

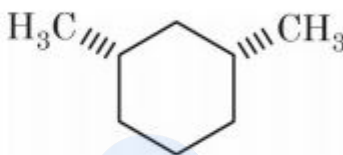
दिये गये 3 पदार्थों A, B तथा C में 'मिसो' अवस्था का चयन करें।



(A)



(B)



(C)

- (1) केवल A
(3) B तथा C मात्र

- (2) केवल C
(4) केवल B

Options :

92090633069. 1
92090633070. 2
92090633071. 3
92090633072. 4

Question Number : 69 Question Id : 9209068368 Question Type : MCQ Option Shuffling : No 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 Density of states of electron having energy ϵ in Three Dimensional (3D), depends on energy ϵ as:

- (1) $\sqrt{\epsilon}$ (2) ϵ
(3) Independent of ϵ (4) ϵ^2

Options :

92090633073. 1
92090633074. 2
92090633075. 3
92090633076. 4

Question Number : 69 Question Id : 9209068368 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

ऊर्जा वाले इलेक्ट्रॉन में घनत्व की अवस्था उसकी त्रि आयामी (3D) अवस्था में ऊर्जा पर निर्भर करती है।

- | | |
|------------------------|-----------|
| (1) $\sqrt{E}$ | (2) E |
| (3) E पर निर्भर नहीं | (4) E^2 |

Options :

92090633073. 1
92090633074. 2
92090633075. 3
92090633076. 4

Question Number : 70 Question Id : 9209068369 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Cellulose is not digested in human digestive system because:

- | | |
|--|--|
| (1) It contains α 1,4 glucosidic bond | (2) It contains α 1,6 glucosidic bond |
| (3) It contains β 1,4 glucosidic bond | (4) It contains β 1,6 glucosidic bond |

Options :

92090633077. 1
92090633078. 2
92090633079. 3
92090633080. 4

Question Number : 70 Question Id : 9209068369 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

सेल्यूलोस मानव पाचन तंत्र द्वारा पाचनशील नहीं है क्योंकि -

- (1) इसमें α ,1, 4 – ग्लूकोसाइडिक बन्ध होता है।
(2) इसमें α ,1, 6 – ग्लूकोसाइडिक बन्ध होता है।
(3) इसमें β ,1, 4 – ग्लूकोसाइडिक बन्ध होता है।
(4) इसमें β ,1, 6 – ग्लूकोसाइडिक बन्ध होता है।

Options :

92090633077. 1
92090633078. 2

92090633079. 3

92090633080. 4

Question Number : 71 Question Id : 9209068370 Question Type : MCQ Option Shuffling : No 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 : EAN of the central metal atom / ion in $[\text{Ni}(\text{CO})_4]$ and $[\text{Fe}(\text{CN})_6]^{4-}$ is 36 each

Statement II : IUPAC name of the complex $\text{Na}[\text{Ag}(\text{CN})_2]$ is sodium cyanidoargentate(I).

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 :

92090633081. 1

92090633082. 2

92090633083. 3

92090633084. 4

Question Number : 71 Question Id : 9209068370 Question Type : MCQ Option Shuffling : No 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 : केन्द्रीय धातु आयक परमाणु का EAN, $[\text{Ni}(\text{CO})_4]$ तथा $[\text{Fe}(\text{CN})_6]^{4-}$ प्रत्येक है।

कथन II : $\text{Na}[\text{Ag}(\text{CN})_2]$ समूह का नाम सोडियम सायनिडोआराज्जिट (I) है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए:

- (1) कथन I और II दोनों सत्य हैं
- (2) कथन I और II दोनों असत्य हैं
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

Options :

92090633081. 1

92090633082. 2

92090633083. 3

92090633084. 4

Question Number : 72 Question Id : 9209068371 Question Type : MCQ Option Shuffling : No 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 a point mutation where purine is replaced by pyrimidine or vice versa it is called Transition.

Statement II : In a point mutation where purine base is replaced by purine base or vice versa, it called Transversion.

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 :

92090633085. 1

92090633086. 2

92090633087. 3

92090633088. 4

Question Number : 72 Question Id : 9209068371 Question Type : MCQ Option Shuffling : No 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 : एख बिन्दु उत्परिवर्तन मे प्यूरिन पारीमीडिन से आपस मे अदला-बदलीया तो इसे उल्टा संक्रमण कहलाता है।

कथन II : एक बिन्दु उत्परिवर्तन मे प्यूरिन का प्यूरिन से बदलता है तो ये इसके उल्टा अनुप्रस्थान कहलाता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तरका चयन कीजिए:

- (1) कथन I और II दोनों सत्य है
- (2) कथन I और II दोनों असत्य है
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

Options :

92090633085. 1

92090633086. 2

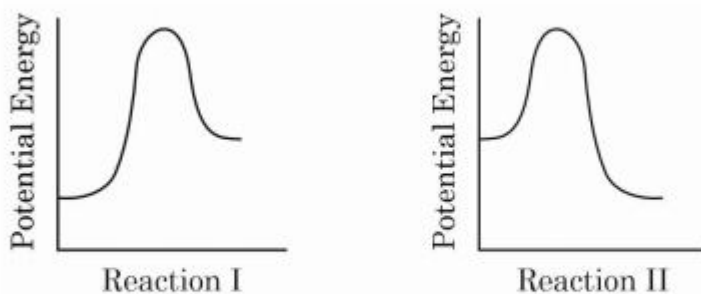
92090633087. 3

92090633088. 4

Question Number : 73 Question Id : 9209068372 Question Type : MCQ Option Shuffling : No 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 are potential energy diagrams for the reactions I & II. The reactions which will show the least increase in rate for a given increase in temperature is :



- (1) Reaction I forward (2) Reaction I backward
(3) Reaction II forward (4) Reaction II backward

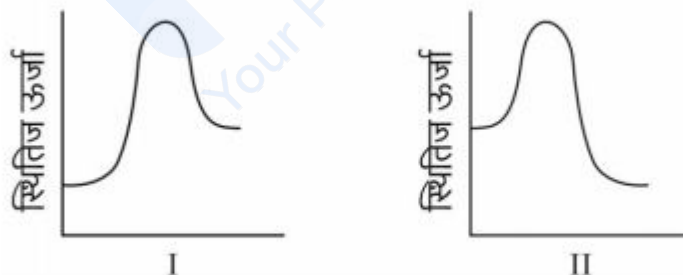
Options :

92090633089. 1
92090633090. 2
92090633091. 3
92090633092. 4

Question Number : 73 Question Id : 9209068372 Question Type : MCQ Option Shuffling : No 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 दो I तथा II स्थितिज ऊर्जा चित्र दर्शाये हैं। जिस क्रिया में तापमान वृद्धि पर सबसे कम वृद्धि दर्शायेगी उसका चयन करें।



- (1) क्रिया I आगे की ओर (2) क्रिया I पीछे की ओर
(3) क्रिया II आगे की ओर (4) क्रिया II पीछे की ओर

Options :

92090633089. 1
92090633090. 2
92090633091. 3
92090633092. 4

Question Number : 74 Question Id : 9209068373 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

According to plank's Radiation law the average energy per oscillator is:

(1) $E = \frac{h\nu}{e^{h\nu/KT} + 1}$

(2) $E = \frac{h\nu}{e^{h\nu/KT} - 1}$

(3) $E = \frac{h\nu}{e^{KT/h\nu} - 1}$

(4) $E = \frac{h\nu}{e^{KT/h\nu} + 1}$

Options :

92090633093. 1

92090633094. 2

92090633095. 3

92090633096. 4

Question Number : 74 Question Id : 9209068373 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

प्लांक विकिरण सिद्धांत के अनुसार प्रति दोलन औसत ऊर्जा है।

(1) $E = \frac{h\nu}{e^{h\nu/KT} + 1}$

(2) $E = \frac{h\nu}{e^{h\nu/KT} - 1}$

(3) $E = \frac{h\nu}{e^{KT/h\nu} - 1}$

(4) $E = \frac{h\nu}{e^{KT/h\nu} + 1}$

Options :

92090633093. 1

92090633094. 2

92090633095. 3

92090633096. 4

Question Number : 75 Question Id : 9209068374 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Michaelis Menen constant (Km) is equal to:

(1) Substrate concentration at which the rate of reaction is maximum.

(2) The rate of reaction.

(3) The rate of enzymatic activity.

(4) Substrate concentration at which the reaction attains half of its maximum velocity.

Options :

- 92090633097. 1
- 92090633098. 2
- 92090633099. 3
- 92090633100. 4

Question Number : 75 Question Id : 9209068374 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

मायकेलिस मॅटन स्थिरांक (K_m) निम्न के बराबर है -

- (1) क्रियाधार की वह सांद्रता जिस पर क्रिया की गति सर्वाधिक होगी।
- (2) क्रिया का दर
- (3) एन्जाइमी क्रिया का दर
- (4) क्रियाधार सांद्रता जिस पर क्रिया अपनी अधिकतम गति के आधे को प्राप्त कर लेती है।

Options :

- 92090633097. 1
- 92090633098. 2
- 92090633099. 3
- 92090633100. 4

Question Number : 76 Question Id : 9209068375 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

$[\text{Cr}(\text{NH}_3)_4(\text{NO}_2)_2]$ Cl complex can exhibit:

- (A) Ionization isomerism.
- (B) Linkage isomerism.
- (C) Geometrical isomerism.
- (D) Optical isomerism.
- (E) Co-ordinate isomerism.

Choose the correct answer from the options given below :

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

Options :

- 92090633101. 1

92090633102. 2

92090633103. 3

92090633104. 4

Question Number : 76 Question Id : 9209068375 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

$[\text{Cr}(\text{NH}_3)_4(\text{NO}_2)_2]\text{Cl}$ समूह निम्न दर्शाता है।

- A. आयनीकृत समावयवता
- B. लिंकेज समावयवता
- C. त्रिज्यामितीय समावयवता
- D. आण्टिकल समावयवता
- E. का-आरडिनेट समावयवता

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

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

Options :

92090633101. 1

92090633102. 2

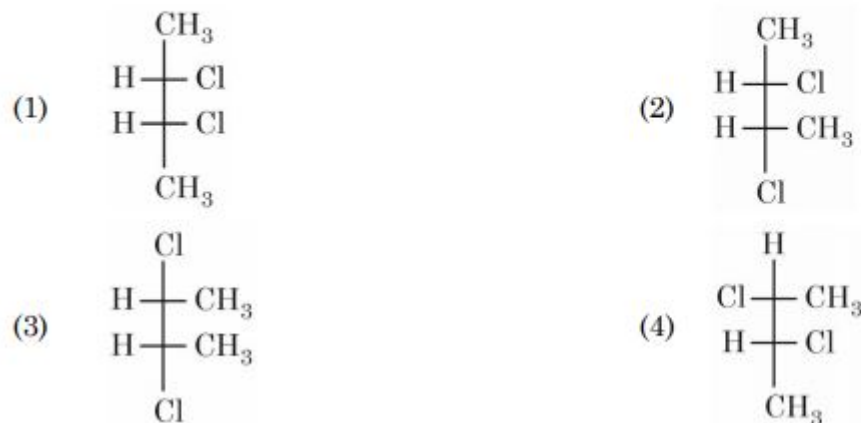
92090633103. 3

92090633104. 4

Question Number : 77 Question Id : 9209068376 Question Type : MCQ Option Shuffling : No 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 representation / structure from the following that does not represent meso-2,3-dichlorobutane is:



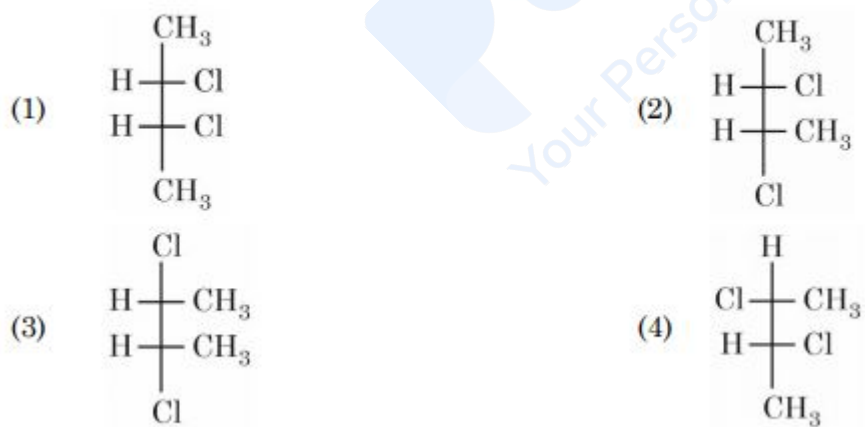
Options :

- 92090633105. 1
- 92090633106. 2
- 92090633107. 3
- 92090633108. 4

Question Number : 77 Question Id : 9209068376 Question Type : MCQ Option Shuffling : No 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 रूपण संरचना जो मिसो-2,3-डाइक्लोरोब्यूटेन को नहीं दर्शाती है।



Options :

- 92090633105. 1
- 92090633106. 2
- 92090633107. 3
- 92090633108. 4

Question Number : 78 Question Id : 9209068377 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum

Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

If X, Y and Z represent the magnitudes of Electromagnetic, Gravitational and Nuclear forces between two electrons at a given separation, then

(1) $Z > X > Y$

(2) $X > Y > Z$

(3) $X > Z > Y$

(4) $Y > Z > X$

Options :

92090633109. 1

92090633110. 2

92090633111. 3

92090633112. 4

Question Number : 78 Question Id : 9209068377 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

किसी पृथक्करण पर यदि X, Y तथा Z दो इलेक्ट्रान के मध्य के वेधुत चुम्बकीय, गुरुत्वाकर्षणीय तथा केन्द्रकीय बला को दर्शाते हैं तो उनके 'मेगनीट्यूड' का क्रम होगा -

(1) $Z > X > Y$

(2) $X > Y > Z$

(3) $X > Z > Y$

(4) $Y > Z > X$

Options :

92090633109. 1

92090633110. 2

92090633111. 3

92090633112. 4

Question Number : 79 Question Id : 9209068378 Question Type : MCQ Option Shuffling : No 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 mutation caused by transfer of hydrogen from one position to other in a nitrogen base is called:

(1) Transition

(2) Transversion

(3) Tautomeric shift

(4) Translocation

Options :

92090633113. 1

92090633114. 2

92090633115. 3

92090633116. 4

Question Number : 79 Question Id : 9209068378 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

उत्परिवर्तन का प्रकार जिसमें नाइट्रोजन क्षार में हायड्रोजन एक स्थान से दूसरे स्थान पर स्थानांतरित होता है कहलाता है।

- | | |
|--------------------------|----------------|
| (1) संक्रमण | (2) अनुप्रस्थन |
| (3) 'टोटामेरिक' विस्थापन | (4) स्थानांतरण |

Options :

92090633113. 1
92090633114. 2
92090633115. 3
92090633116. 4

Question Number : 80 Question Id : 9209068379 Question Type : MCQ Option Shuffling : No 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 : $[\text{CoCl}_3(\text{NH}_3)_3]$ with AgNO_3 solution gives white precipitate.
Statement II : $[\text{CoCl}_3(\text{NH}_3)_3]$ can show optical isomerism.

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 correct but Statement II is incorrect
(4) Statement I is incorrect but Statement II is correct

Options :

92090633117. 1
92090633118. 2
92090633119. 3
92090633120. 4

Question Number : 80 Question Id : 9209068379 Question Type : MCQ Option Shuffling : No 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 : $[\text{COCl}_3(\text{NH}_3)_3]$ श्वेत अवक्षेप AgNO_3 घोल के साथ देता है।

कथन II : $[\text{COCl}_3(\text{NH}_3)_3]$ 'आष्टिकल' समरूपता दर्शाता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए:

- (1) कथन I और II दोनों सत्य हैं
- (2) कथन I और II दोनों असत्य हैं
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

Options :

92090633117. 1

92090633118. 2

92090633119. 3

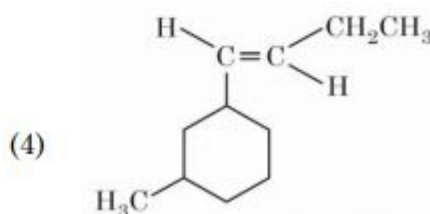
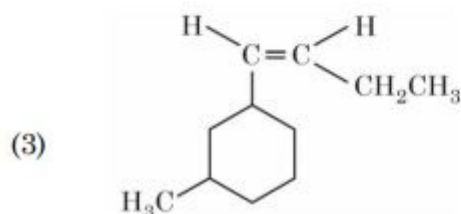
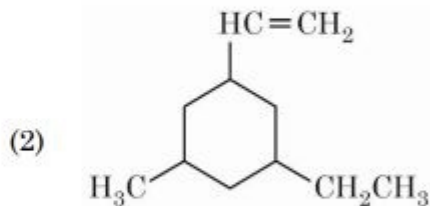
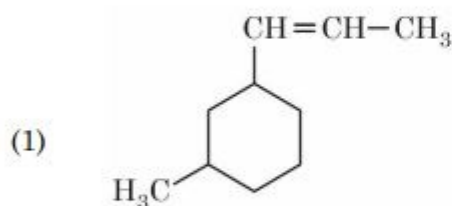
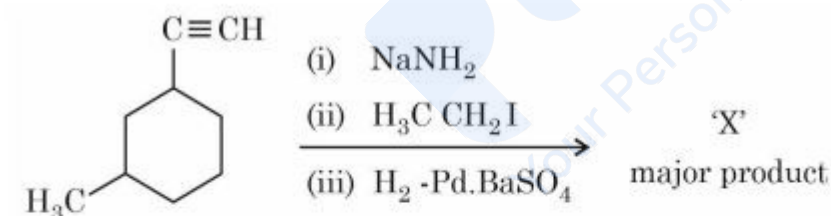
92090633120. 4

Question Number : 81 Question Id : 9209068380 Question Type : MCQ Option Shuffling : No Is

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

Correct Marks : 4 Wrong Marks : 1

Major Product 'X' obtained in the following sequence of reactions is:



Options :

92090633121. 1

92090633122. 2

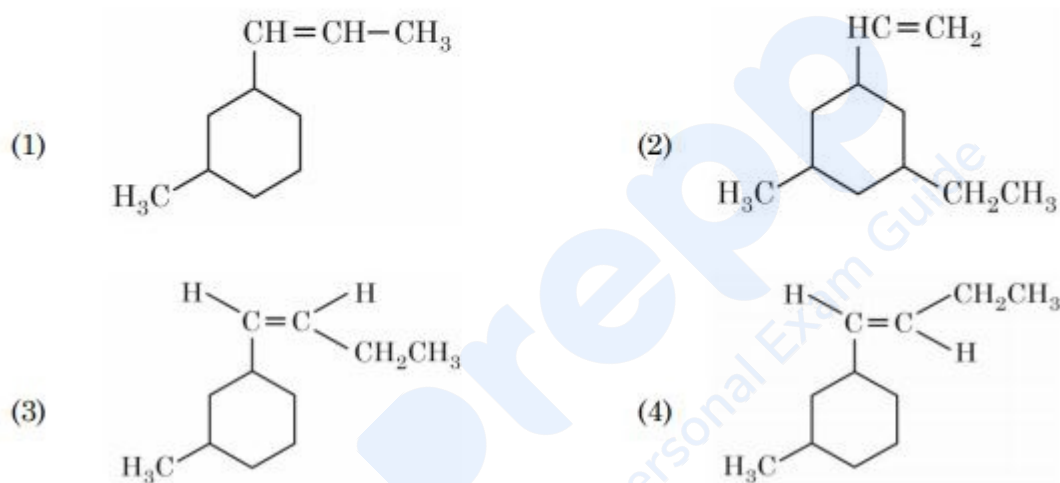
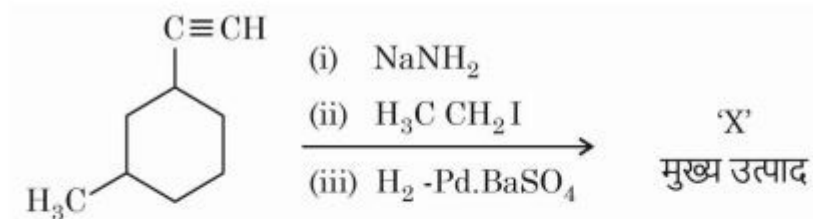
92090633123. 3

92090633124. 4

Question Number : 81 Question Id : 9209068380 Question Type : MCQ Option Shuffling : No 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 क्रिया क्रम में बनने वाला मुख्य उत्पाद 'X' निम्न में से चयन करें।



Options :

92090633121. 1

92090633122. 2

92090633123. 3

92090633124. 4

Question Number : 82 Question Id : 9209068381 Question Type : MCQ Option Shuffling : No 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 magnetic field is applied perpendicular to the Direction in which holes drifts in P – type semiconductor Bar, then ratio of Hall coefficient and the resistivity will be:

(1) Resistance

(2) Capacitance

(3) Mobility

(4) Drift Velocity

Options :

92090633125. 1

92090633126. 2

92090633127. 3

92090633128. 4

Question Number : 82 Question Id : 9209068381 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

हाल काफिशियंट तथा प्रतिरोधिता के अनुपात का चयन करे यदि चुम्बकीय क्षेत्र P टायप अर्धचालक 'बार' में झुलते धिद्रो कि दिशा के लम्बवत लगाया जाता है।

- | | |
|---------------|-----------------|
| (1) प्रतिरोध | (2) धारिता |
| (3) चलायमानता | (4) ड्रिष्ट गति |

Options :

92090633125. 1

92090633126. 2

92090633127. 3

92090633128. 4

Question Number : 83 Question Id : 9209068382 Question Type : MCQ Option Shuffling : No 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 trihybrid cross $AaBbRr \times AaBbRr$ the proportion of offsprings having $aabbrr$ is:

- | | |
|------------|-------------|
| (1) $1/8$ | (2) $1/16$ |
| (3) $1/64$ | (4) $1/256$ |

Options :

92090633129. 1

92090633130. 2

92090633131. 3

92090633132. 4

Question Number : 83 Question Id : 9209068382 Question Type : MCQ Option Shuffling : No 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 त्रिसंकट प्रसंकट $AaBbRr \times AaBbRr$ मे $aabbrr$ का अनुपात सतंत्रियो मे निम्न होगा।

- | | |
|------------|-------------|
| (1) $1/8$ | (2) $1/16$ |
| (3) $1/64$ | (4) $1/256$ |

Options :

92090633129. 1
92090633130. 2
92090633131. 3
92090633132. 4

Question Number : 84 Question Id : 9209068383 Question Type : MCQ Option Shuffling : No 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 : Oxidation state of Ni in $\text{Ni}(\text{CO})_4$ is two.

Statement II : Synergic bonding takes place in metal carbonyl complexes.

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 :

92090633133. 1
92090633134. 2
92090633135. 3
92090633136. 4

Question Number : 84 Question Id : 9209068383 Question Type : MCQ Option Shuffling : No 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 : $[\text{Ni}(\text{CO})_4]$ में Ni की दो आवसीकृत अवस्थाएँ होती हैं।

कथन II : धात्विक कार्बोनिल समूह में सहक्रियायी बन्धता होती है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए:

- (1) कथन I और II दोनों सत्य हैं
- (2) कथन I और II दोनों असत्य हैं
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

Options :

- 92090633133. 1
- 92090633134. 2
- 92090633135. 3
- 92090633136. 4

Question Number : 85 Question Id : 9209068384 Question Type : MCQ Option Shuffling : No 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 magnesium spoon is dipped in an aqueous solution containing $\text{Ca}(\text{NO}_3)_2$ and AgNO_3 , then

- (1) Mg is oxidized
- (2) Ag^+ is reduced
- (3) Ca^{2+} is reduced
- (4) loss in the mass of the magnesium spoon

Options :

- 92090633137. 1
- 92090633138. 2
- 92090633139. 3
- 92090633140. 4

Question Number : 85 Question Id : 9209068384 Question Type : MCQ Option Shuffling : No 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 मैग्नीशियम चम्मच को $\text{Ca}(\text{NO}_3)_2$ तथा AgNO_3 के जलीय घोल में डालते हैं तो -

- (1) Mg आवसीकृत है।
- (2) Ag^{2+} अपचयित है
- (3) Ca^{2+} आवसीकृत है
- (4) मैग्नीशियम चम्मच में भार का ह्रास

Options :

92090633137. 1
92090633138. 2
92090633139. 3
92090633140. 4

Question Number : 86 Question Id : 9209068385 Question Type : MCQ Option Shuffling : No 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 shape of fermi – Dirac Distribution function at $T = 0$ and $E < E_F$ is:

- | | |
|-------------------|-----------------|
| (1) Circular | (2) Elliptical |
| (3) Straight line | (4) Rectangular |

Options :

92090633141. 1
92090633142. 2
92090633143. 3
92090633144. 4

Question Number : 86 Question Id : 9209068385 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

फर्मी डाइरेक्ट वितरणांक $T = 0$ तथा $E < E_F$ है।

- | | |
|---------------|--------------------|
| (1) वृत्ताकार | (2) दीर्घवृत्ताकार |
| (3) सीधी रेखा | (4) आयताकार |

Options :

92090633141. 1
92090633142. 2
92090633143. 3
92090633144. 4

Question Number : 87 Question Id : 9209068386 Question Type : MCQ Option Shuffling : No 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 organism which do not show polycistronic genes is:

- | | |
|------------------------------|-------------------------------------|
| (1) <u>E. coli</u> | (2) <u>Lactobacillus bulgericus</u> |
| (3) <u>Aspergillus nigar</u> | (4) <u>Agrobacterium rhizogans</u> |

Options :

- 92090633145. 1
- 92090633146. 2
- 92090633147. 3
- 92090633148. 4

Question Number : 87 Question Id : 9209068386 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

पालिसिट्रानिक जीन न दशनि वाला जीव है।

- | | |
|---------------------|-----------------------------|
| (1) ई-कोलाई | (2) लेक्टोबेसील्स बुलगारिकस |
| (3) एस्परजिलस नाइजर | (4) एगरोबेक्टिरियम |

Options :

- 92090633145. 1
- 92090633146. 2
- 92090633147. 3
- 92090633148. 4

Question Number : 88 Question Id : 9209068387 Question Type : MCQ Option Shuffling : No 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
Complexes	Type of isomerism
(A) $[\text{Co}(\text{NH}_3)_4\text{Br}_2]$	(I) Optical isomerism
(B) $[\text{Co}(\text{en})_3]\text{Cl}_2$	(II) Co- ordination isomerism
(C) $[\text{Co}(\text{NH}_3)_5(\text{SO}_4)]\text{Br}$	(III) Geometrical isomerism
(D) $[\text{Co}(\text{NH}_3)_6][\text{Cr}(\text{CN})_6]$	(IV) Ionization isomerism

Choose the correct answer from the options given below:

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

Options :

- 92090633149. 1
- 92090633150. 2
- 92090633151. 3

Question Number : 88 Question Id : 9209068387 Question Type : MCQ Option Shuffling : No 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 के साथ सूची II का मिलान कीजिए :

सूची-I (समूह)	सूची-II (समावयवता का प्रकार)
(A) $[\text{Co}(\text{NH}_3)_4\text{Br}_2]$	(I) आण्टिकल समावयवता
(B) $[\text{Co}(\text{en})_3]\text{Cl}_2$	(II) का आर्डिनेशन समावयवता
(C) $[\text{Co}(\text{NH}_3)_5(\text{SO}_4)]\text{Br}$	(III) त्रिज्यामितीय समावयवता
(D) $[\text{Co}(\text{NH}_3)_6][\text{Cr}(\text{CN})_6]$	(IV) आयनीकृत समावयवता

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

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

Options :

92090633149. 1
92090633150. 2
92090633151. 3
92090633152. 4

Question Number : 89 Question Id : 9209068388 Question Type : MCQ Option Shuffling : No 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 the Fresnel's class of diffraction the type of Lens placed between source of light and the screen is:

- | | |
|------------------|-----------------------|
| (1) Concave lens | (2) Convex lens |
| (3) No lens | (4) Plano convex lens |

Options :

92090633153. 1
92090633154. 2
92090633155. 3
92090633156. 4

Question Number : 89 Question Id : 9209068388 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

फ्रेसनल क्लास विवर्तक मे निम्न प्रकार का लेन्स प्रकाश के स्रोत तथा पद्रे के मध्य लगाया जाता है।

- | | |
|--------------------|-------------------|
| (1) अवतल लैन्स | (2) उत्तल लैन्स |
| (3) कोई लेन्स नहीं | (4) समउत्तल लेन्स |

Options :

92090633153. 1
92090633154. 2
92090633155. 3
92090633156. 4

Question Number : 90 Question Id : 9209068389 Question Type : MCQ Option Shuffling : No 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
Complex	Geomenre & Hybridization
(A) $\text{Ni}(\text{CO})_4$	(I) Octahedral, d^2sp^3
(B) $[\text{Ni}(\text{CN})_4]^{2-}$	(II) Tetrahedral, sp^3
(C) $[\text{Fe}(\text{CN})_6]$	(III) Square planer, dsp^2
(D) $[\text{MnF}_6]^{4-}$	(IV) Octahedral, sp^3d^2

Choose the correct answer from the options given below:

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

Options :

92090633157. 1
92090633158. 2
92090633159. 3
92090633160. 4

Question Number : 90 Question Id : 9209068389 Question Type : MCQ Option Shuffling : No 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 के साथ सूची II का मिलान कीजिए :

सूची-I (समूह)	सूची-II (त्रिज्यामिति तथा संकरण)
(A) $\text{Ni}(\text{CO})_4$	(I) अष्टफलकीय, d^2sp^3
(B) $[\text{Ni}(\text{CN})_4]^{2-}$	(II) चतुषफलकीय, sp^3
(C) $[\text{Fe}(\text{CN})_6]$	(III) वर्गाकार समतल, dsp^2
(D) $[\text{MnF}_6]^{4-}$	(IV) अष्टफलकीय, sp^3d^2

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

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

Options :

92090633157. 1
92090633158. 2
92090633159. 3
92090633160. 4

Question Number : 91 Question Id : 9209068390 Question Type : MCQ Option Shuffling : No 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 experiment that shows Demonstration of the Existence of Discrete Energy Levels is:

- | | |
|--------------------------|--------------------|
| (1) Photoelectric Effect | (2) Compton Effect |
| (3) Franck- Hertz model | (4) Stark Effect |

Options :

92090633161. 1
92090633162. 2
92090633163. 3
92090633164. 4

Question Number : 91 Question Id : 9209068390 Question Type : MCQ Option Shuffling : No Is
Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum
Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

उस परीक्षण का चयन करे जिसमे विविक्त ऊर्जा स्तरों की उपस्थिति को दर्शाया गया था

- | | |
|--------------------------|--------------------|
| (1) प्रकाशवैकृतिय प्रभाव | (2) काम्पटन प्रभाव |
| (3) फ्रेक-हर्टज माडल | (4) स्टार्क प्रभाव |

Options :

92090633161. 1
92090633162. 2
92090633163. 3
92090633164. 4

Question Number : 92 Question Id : 9209068391 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Identify correct matches given below.

- (A) Set of only covalently bonded molecules – BCl_3 , SiCl_4 , PCl_3
(B) Correct order of Lattice energy- $\text{NaBr} < \text{NaCl} < \text{BaO} < \text{CaO}$
(C) Lattice energy – $\text{AlF}_3 < \text{MgF}_2$
(D) Trigonal plana geometry – CO_3^{2-} , NO_3 , SO_3
(E) Polar species – SO_2 , BF_3 , SCl_2

Choose the correct answer from the options given below :

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

Options :

92090633165. 1
92090633166. 2
92090633167. 3
92090633168. 4

Question Number : 92 Question Id : 9209068391 Question Type : MCQ Option Shuffling : No 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 जोड़े का चयन करे

- A. केवल कोवेलन्ट बन्धी जोड़े – BCl_3 , SiCl_4 , PCl_3
- B. जाल ऊर्जा का सही क्रम जोड़े – $\text{NaBr} < \text{NaCl} < \text{BaO} < \text{CaO}$
- C. जाल ऊर्जा – $\text{AlF}_3 < \text{MgF}_2$
- D. त्रिगुणी समतली त्रिव्यामिति – CO_3^{2-} , NO_3 , SO_3
- E. ध्रुवीय प्रजाति – SO_2 , BF_3 , SCl_2

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

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

Options :

- 92090633165. 1
- 92090633166. 2
- 92090633167. 3
- 92090633168. 4

Question Number : 93 Question Id : 9209068392 Question Type : MCQ Option Shuffling : No 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 total Energy of Hydrogenic atoms E value with atomic number Z as:

- | | |
|---------------------|-------------------------|
| (1) $E \propto Z$ | (2) $E \propto Z^3$ |
| (3) $E \propto Z^2$ | (4) $E \propto Z^{1/2}$ |

Options :

- 92090633169. 1
- 92090633170. 2
- 92090633171. 3
- 92090633172. 4

Question Number : 93 Question Id : 9209068392 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

हायड्रोजेनिक परमाणुओं की कुल ऊर्जा E परमाणु संख्या Z के निम्न रूप में बदलता है।

- | | |
|---------------------|-------------------------|
| (1) $E \propto Z$ | (2) $E \propto Z^3$ |
| (3) $E \propto Z^2$ | (4) $E \propto Z^{1/2}$ |

Options :

92090633169. 1
92090633170. 2
92090633171. 3
92090633172. 4

Question Number : 94 Question Id : 9209068393 Question Type : MCQ Option Shuffling : No 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) : Correct order for ionisation energy is $K^+ > Ca^{2+} > Cl^- > S^{2-}$

Reasons (R) : For isoelectronic species the ionisation energy varies with z_{eff} .

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

- (1) Both (A) and (R) are correct and (R) is the correct explanation of (A)
(2) Both (A) and (R) are correct but (R) is NOT the correct explanation of (A)
(3) (A) is correct but (R) is not correct
(4) (A) is not correct but (R) is correct

Options :

92090633173. 1
92090633174. 2
92090633175. 3
92090633176. 4

Question Number : 94 Question Id : 9209068393 Question Type : MCQ Option Shuffling : No 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 : आयनीकरण ऊर्जा का सही क्रम है
 $K^+ > Ca^{2+} > Cl^- > S^{2-}$

कारण R : सम इलेक्ट्रॉनिक प्रजाति की आयनीकरण ऊर्जा Z_{eff} के साथ बदलती 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, लेकिन 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 :

92090633173. 1

92090633174. 2

92090633175. 3

92090633176. 4

Question Number : 95 Question Id : 9209068394 Question Type : MCQ Option Shuffling : No 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 internal energy (U) of the gas is partly kinetic and partly potential which is generally the relation:

- | | |
|-----------------------|-----------------------|
| (1) $U = C_v T$ | (2) $U = C_v T + a/v$ |
| (3) $U = C_v T - a/v$ | (4) $U = C_v T^2$ |

Options :

92090633177. 1

92090633178. 2

92090633179. 3

92090633180. 4

Question Number : 95 Question Id : 9209068394 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

किसी गैस की आन्तरिक ऊर्जा आंशिक रूप से गतिज तथा आंशिक रूप से स्थित होती है जो निम्न रूप में दर्शायी जाती है।

(1) $U = C_v T$

(2) $U = C_v T + a/v$

(3) $U = C_v T - a/v$

(4) $U = C_v T^2$

Options :

92090633177. 1

92090633178. 2

92090633179. 3

92090633180. 4

Question Number : 96 Question Id : 9209068395 Question Type : MCQ Option Shuffling : No 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 correct sequence of elements in increasing order of electro negativity is:

(A) P

(B) Si

(C) N

(D) C

Choose the correct answer from the options given below :

(1) (B), (D), (A), (C)

(2) (A), (B), (C), (D)

(3) (D), (C), (B), (A)

(4) (B), (A), (D), (C)

Options :

92090633181. 1

92090633182. 2

92090633183. 3

92090633184. 4

Question Number : 96 Question Id : 9209068395 Question Type : MCQ Option Shuffling : No 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 तत्वों को उनकी वैधुतनकारात्मकता के बदले क्रम में आयोजित करें

- A. P
- B. Si
- C. N
- D. C

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

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

Options :

- 92090633181. 1
- 92090633182. 2
- 92090633183. 3
- 92090633184. 4

Question Number : 97 Question Id : 9209068396 Question Type : MCQ Option Shuffling : No 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 Theoretical value of poisson's ratio lies between:

- (1) - 1 and 0
- (2) - 1 and -2
- (3) -1 and 0.5
- (4) -0.5 and +1

Options :

- 92090633185. 1
- 92090633186. 2
- 92090633187. 3
- 92090633188. 4

Question Number : 97 Question Id : 9209068396 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

पायसन अनुपात σ का सैन्थन्तिक माप निम्न के अन्दर होता है।

- (1) -1 तथा 0
- (2) -1 तथा -2
- (3) -1 तथा 0.5
- (4) -0.5 तथा +1

Options :

92090633185. 1
92090633186. 2
92090633187. 3
92090633188. 4

Question Number : 98 Question Id : 9209068397 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Correct increasing order of ionic size for the following species is:

- (A) Mg^{2+}
- (B) Na^{+}
- (C) O_2^{-}
- (D) N_3^{-}
- (E) F^{-}

Choose the correct answer from the options given below :

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

Options :

92090633189. 1
92090633190. 2
92090633191. 3
92090633192. 4

Question Number : 98 Question Id : 9209068397 Question Type : MCQ Option Shuffling : No 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 आयनों को उनकी आकार के बढ़ते क्रम में आयोजित करें

- A. Mg^{2+}
- B. Na^+
- C. O^{2-}
- D. N^{3-}
- E. F^-

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

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

Options :

- 92090633189. 1
- 92090633190. 2
- 92090633191. 3
- 92090633192. 4

Question Number : 99 Question Id : 9209068398 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Domain Theory explains the magnetic properties of:

- | | |
|-----------------------------|----------------------------|
| (1) Diamagnetic Materials | (2) Paramagnetic Materials |
| (3) Ferromagnetic Materials | (4) Multiferroic Materials |

Options :

- 92090633193. 1
- 92090633194. 2
- 92090633195. 3
- 92090633196. 4

Question Number : 99 Question Id : 9209068398 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

डोमेन सिद्धान्त निम्न के चुम्बकीय गुणों को दर्शाता है।

- | | |
|-------------------------|------------------------|
| (1) द्विचुम्बकीय पदार्थ | (2) अनुचुम्बकीय पदार्थ |
| (3) लोहचुम्बकीय पदार्थ | (4) बहुलोह पदार्थ |

Options :

92090633193. 1
92090633194. 2
92090633195. 3
92090633196. 4

Question Number : 100 Question Id : 9209068399 Question Type : MCQ Option Shuffling : No 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 : Transition elements exhibit variable oxidation states.

Statement II : Transition elements do not show catalytic activity.

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 :

92090633197. 1
92090633198. 2
92090633199. 3
92090633200. 4

Question Number : 100 Question Id : 9209068399 Question Type : MCQ Option Shuffling : No 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 : ट्रांसिशन तत्व अस्थिर आक्सीकरण अवस्थाएँ दर्शाते हैं।

कथन II : ट्रांसिशन तत्व उत्प्रेरक गतिविधि नहीं दर्शाते हैं।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए:

- (1) कथन I और II दोनों सत्य हैं
- (2) कथन I और II दोनों असत्य हैं
- (3) कथन I सत्य है, लेकिन कथन II असत्य है
- (4) कथन I असत्य है, लेकिन कथन II सत्य है

Options :

92090633197. 1

92090633198. 2

92090633199. 3

92090633200. 4

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