

National Testing Agency

Question Paper Name : Chemistry Eng 06th June 2023 Shift 2
Subject Name : Chemistry Eng
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Duration : 120
Total Marks : 400
Display Marks: Yes

Chemistry

Group Number : 1
Group Id : 92090649
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 : 92090697
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 : 920906155
Question Shuffling Allowed : No
Is Section Default? : null

Question Id : 9209064857 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

The SC said, "Postings within the state cadre as well as joint cadre of a constituent state shall be made by the 'government of that state', that is, by the duly elected government. In our case, it shall be the government of NCTD. We, accordingly, hold that references to 'state government' in relevant rules of All India Services or joint cadre services, of which NCTD is a part or which are in relation to NCTD, shall mean the government of NCTD."

CJI Chandrachud said this case dealt with the asymmetric federal model of governance in India involving the contest of power between a Union Territory and the Union government. The issue was who would have control over 'services' in NCTD a government of the NCTD or the LG acting on behalf of the Union government a question which arose subsequent to a May 21, 2015, notification by the Union ministry of home affairs that gave the upper hand to the centre on 'services' in relation to the government of NCTD.

While ruling that Delhi government had legislative and executive power over services except on land, police and public order, the bench, importantly, said GNCTD being one of its kind ("sui generis") Union Territory, parliament would have overriding legislative power over all subjects in list 2 (which are exclusive domains of state legislatures) and List 3 (Concurrent List subjects on which both parliament and assemblies can legislate with primacy given to parliament enacted laws). This means, if the Delhi assembly enacts any law on any subject, parliament can pass a law "adding, amending and repealing" the legislation passed by the Delhi assembly.

Dwelling on federalism and responsibilities of an elected government, the CJI said, "In a democratic form of government, the real power of administration must reside in the elected arm of the state, subject to the confines of the constitution. A constitutionally entrenched and democratically elected government needs to have control over its administration. If a democratically elected government is not provided with the power to control the officers posted within its domain, then the principle underlying the triple chain of collective responsibility would become redundant." It explained the triple chains as civil service officers being accountable to ministers, ministers being accountable to parliament/legislature and parliament/legislature being accountable to the electorate.

"That is to say, if the government is not able to control and hold to account the officers posted in its service, then its responsibility towards the legislature as well as the public is diluted. The principle of collective responsibility extends to the responsibility of officers, who in turn report to the ministers," the SC said.

Taking into account the AAP government's allegation that bureaucrats were not listening to ministers in the elected government because of the centre's interference, the five-judge bench said, "If the officers stop reporting to the ministers or do not abide by their directions, the entire principle of collective responsibility is affected.

"A democratically elected government can perform only when there is an awareness on the part of officers of the consequences which may ensue if they do not perform. If the officers feel that they are insulated from the control of the elected government which they are serving, then they become unaccountable or may not show commitment towards their performance."

Explaining the risks of an unaccountable bureaucracy in a democratic form of governance where accountability is well defined under the triple chain of command, the bench said, "An unaccountable and non-responsive civil service may pose a serious problem of governance in a democracy. It creates a possibility that the permanent executive, consisting of unelected civil service officers, who play a decisive role in implementation of government policy, may act in ways that disregard the will of the electorate."

Sub questions

Question Number : 1 Question Id : 9209064858 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Responsibility towards public is dituted means:

- (1) Complete failure in taking responsibility for the public.
- (2) The responsibility was not properly taken care of.
- (3) The responsibility became thinner.
- (4) More responsibilities were added to the last meant for public.

Options :

92090619201. 1

92090619202. 2

92090619203. 3
92090619204. 4

Question Number : 2 Question Id : 9209064859 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Posting within the state cadre of a constituent state shall be made by: _____

(As per Supreme Court)

- (1) Government of that state.
- (2) Duly elected government of that state.
- (3) By the union Government.
- (4) By both state and union Government.

Options :

92090619205. 1
92090619206. 2
92090619207. 3
92090619208. 4

Question Number : 3 Question Id : 9209064860 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

How the entire principle of collective responsibility will be affected?

- (A) Only when officers stop responding to the ministers.
- (B) Only when officers do not abide by directions of ministries.
- (C) If the officers stop reporting to the ministers.
- (D) If officers do not abide by directions of the ministers.

Choose the correct answer from the options given below :

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

Options :

92090619209. 1
92090619210. 2
92090619211. 3
92090619212. 4

Question Number : 4 Question Id : 9209064861 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Triple chain refers to: (The order or sequence)

- (A) Civil service officers being accountable to ministers.
- (B) Ministers being accountable to parliament.
- (C) Parliament being accountable to electorate.
- (D) Electorate being accountable to the government.

Choose the correct answer from the options given below :

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

Options :

92090619213. 1
92090619214. 2
92090619215. 3
92090619216. 4

**Question Number : 5 Question Id : 9209064862 Question Type : MCQ Option Shuffling : No 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 'accomplish' is:

- | | |
|-------------|---------------|
| (1) achieve | (2) relieve |
| (3) improve | (4) adaptable |

Options :

92090619217. 1
92090619218. 2
92090619219. 3
92090619220. 4

**Question Id : 9209064857 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

The SC said, "Postings within the state cadre as well as joint cadre of a constituent state shall be made by the 'government of that state', that is, by the duly elected government. In our case, it shall be the government of NCTD. We, accordingly, hold that references to 'state government' in relevant rules of All India Services or joint cadre services, of which NCTD is a part or which are in relation to NCTD, shall mean the government of NCTD."

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"A democratically elected government can perform only when there is an awareness on the part of officers of the consequences which may ensue if they do not perform. If the officers feel that they are insulated from the control of the elected government which they are serving, then they become unaccountable or may not show commitment towards their performance."

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Sub questions

Question Number : 1 Question Id : 9209064858 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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Options :

92090619201. 1

92090619202. 2

92090619203. 3
92090619204. 4

Question Number : 2 Question Id : 9209064859 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

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(As per Supreme Court)

- (1) Government of that state.
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- (4) By both state and union Government.

Options :

92090619205. 1
92090619206. 2
92090619207. 3
92090619208. 4

Question Number : 3 Question Id : 9209064860 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

How the entire principle of collective responsibility will be affected?

- (A) Only when officers stop responding to the ministers.
- (B) Only when officers do not abide by directions of ministries.
- (C) If the officers stop reporting to the ministers.
- (D) If officers do not abide by directions of the ministers.

Choose the correct answer from the options given below :

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

Options :

92090619209. 1
92090619210. 2
92090619211. 3
92090619212. 4

Question Number : 4 Question Id : 9209064861 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Triple chain refers to: (The order or sequence)

- (A) Civil service officers being accountable to ministers.
- (B) Ministers being accountable to parliament.
- (C) Parliament being accountable to electorate.
- (D) Electorate being accountable to the government.

Choose the correct answer from the options given below :

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

Options :

92090619213. 1
92090619214. 2
92090619215. 3
92090619216. 4

Question Number : 5 Question Id : 9209064862 Question Type : MCQ Option Shuffling : No 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 'accomplish' is:

- | | |
|-------------|---------------|
| (1) achieve | (2) relieve |
| (3) improve | (4) adaptable |

Options :

92090619217. 1
92090619218. 2
92090619219. 3
92090619220. 4

Sub-Section Number :	2
Sub-Section Id :	920906156
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 6 Question Id : 9209064863 Question Type : MCQ Option Shuffling : No 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 make a meaningful paragraph:

- (A) Modern scientific techniques have greatly extended the range of cloning. Now, even animals can be cloned.
- (B) Cuttings may be taken from roots or shoots, and inserted into soil or compost where they develop into a new plant.
- (C) Gardeners have been making clones of plants for centuries. Every time they take a cutting of a geranium, a rose or any other plant, they are producing a genetically identical copy a clone.
- (D) Ultimately, Hence seems to be no biological reason why human beings should not be cloned too.

Choose the correct answer from the options given below :

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

Options :

92090619221. 1
92090619222. 2
92090619223. 3
92090619224. 4

Question Number : 6 Question Id : 9209064863 Question Type : MCQ Option Shuffling : No 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 make a meaningful paragraph:

- (A) Modern scientific techniques have greatly extended the range of cloning. Now, even animals can be cloned.
- (B) Cuttings may be taken from roots or shoots, and inserted into soil or compost where they develop into a new plant.
- (C) Gardeners have been making clones of plants for centuries. Every time they take a cutting of a geranium, a rose or any other plant, they are producing a genetically identical copy a clone.
- (D) Ultimately, Hence seems to be no biological reason why human beings should not be cloned too.

Choose the correct answer from the options given below :

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

Options :

- 92090619221. 1
- 92090619222. 2
- 92090619223. 3
- 92090619224. 4

Question Number : 7 Question Id : 9209064864 Question Type : MCQ Option Shuffling : No 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 option?

- (1) Triboluminescence
- (2) Tribaleminescence
- (3) Tribooluminesenca
- (4) Tribulominescence

Options :

- 92090619225. 1
- 92090619226. 2
- 92090619227. 3
- 92090619228. 4

Question Number : 7 Question Id : 9209064864 Question Type : MCQ Option Shuffling : No 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 option?

- (1) Triboluminescence
- (2) Tribaleminescence
- (3) Tribooluminesenca
- (4) Tribulominescence

Options :

- 92090619225. 1
- 92090619226. 2
- 92090619227. 3
- 92090619228. 4

Question Number : 8 Question Id : 9209064865 Question Type : MCQ Option Shuffling : No 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 option to replace the underlined part into make a grammatically correct sentence.

Had he realized how close he was to failing, he would not have gone to the party.

- (1) If he would have realised how close he was to failing, he would not have gone to the party.
- (2) Had he had realised how close he was to failing, he would not have gone to the party.
- (3) When he realized how close he was to failing, he would not have gone to the party.
- (4) Had he realised how close he was to failing, he would not have gone to the party.

Options :

- 92090619229. 1
- 92090619230. 2
- 92090619231. 3
- 92090619232. 4

Question Number : 8 Question Id : 9209064865 Question Type : MCQ Option Shuffling : No 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 option to replace the underlined part into make a grammatically correct sentence.

Had he realized how close he was to failing, he would not have gone to the party.

- (1) If he would have realised how close he was to failing, he would not have gone to the party.
- (2) Had he had realised how close he was to failing, he would not have gone to the party.
- (3) When he realized how close he was to failing, he would not have gone to the party.
- (4) Had he realised how close he was to failing, he would not have gone to the party.

Options :

- 92090619229. 1
- 92090619230. 2
- 92090619231. 3
- 92090619232. 4

Question Number : 9 Question Id : 9209064866 Question Type : MCQ Option Shuffling : No 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 belief that one is more important than one really is:

- | | |
|------------|-----------------|
| (1) Mascot | (2) Megalomania |
| (3) Mirage | (4) Moccasin |

Options :

- 92090619233. 1
- 92090619234. 2
- 92090619235. 3
- 92090619236. 4

Question Number : 9 Question Id : 9209064866 Question Type : MCQ Option Shuffling : No 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 belief that one is more important than one really is:

- | | |
|------------|-----------------|
| (1) Mascot | (2) Megalomania |
| (3) Mirage | (4) Moccasin |

Options :

- 92090619233. 1
- 92090619234. 2

92090619235. 3
92090619236. 4

**Question Number : 10 Question Id : 9209064867 Question Type : MCQ Option Shuffling : No 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 "INTRICACY" of:

- | | |
|----------------|----------------|
| (1) Extricate | (2) Cordiality |
| (3) Simplicity | (4) Distance |

Options :

92090619237. 1
92090619238. 2
92090619239. 3
92090619240. 4

**Question Number : 10 Question Id : 9209064867 Question Type : MCQ Option Shuffling : No 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 "INTRICACY" of:

- | | |
|----------------|----------------|
| (1) Extricate | (2) Cordiality |
| (3) Simplicity | (4) Distance |

Options :

92090619237. 1
92090619238. 2
92090619239. 3
92090619240. 4

**Question Number : 11 Question Id : 9209064868 Question Type : MCQ Option Shuffling : No 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 how many years will a sum of money desbled itself at $6\frac{1}{4}\%$ per annum simple intrest?

- | | |
|--------|--------|
| (1) 8 | (2) 16 |
| (3) 20 | (4) 5 |

Options :

92090619241. 1
92090619242. 2
92090619243. 3
92090619244. 4

**Question Number : 11 Question Id : 9209064868 Question Type : MCQ Option Shuffling : No 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 how many years will a sum of money desbled itself at $6\frac{1}{4}\%$ per annum simple intrest?

- | | |
|--------|--------|
| (1) 8 | (2) 16 |
| (3) 20 | (4) 5 |

Options :

92090619241. 1
92090619242. 2
92090619243. 3
92090619244. 4

Question Number : 12 Question Id : 9209064869 Question Type : MCQ Option Shuffling : No 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 $3 \cot \theta = 4$, the value of then $h \sin^2 \theta - \cos^2 \theta + \tan \theta$ is

- (1) $\frac{57}{100}$ (2) $\frac{47}{100}$
(3) $\frac{16}{25}$ (4) $\frac{9}{25}$

Options :

92090619245. 1
92090619246. 2
92090619247. 3
92090619248. 4

Question Number : 12 Question Id : 9209064869 Question Type : MCQ Option Shuffling : No 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 $3 \cot \theta = 4$, the value of then $h \sin^2 \theta - \cos^2 \theta + \tan \theta$ is

- (1) $\frac{57}{100}$ (2) $\frac{47}{100}$
(3) $\frac{16}{25}$ (4) $\frac{9}{25}$

Options :

92090619245. 1
92090619246. 2
92090619247. 3
92090619248. 4

Question Number : 13 Question Id : 9209064870 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Amar sold a ratio for Rs.1100 with 10% profit and a television for Rs.11500 with 15% profit.
His overall profit percentage is:

- (1) $12\frac{5}{11}\%$ (2) $13\frac{7}{11}\%$
(3) $14\frac{6}{11}\%$ (4) $13\frac{5}{12}\%$

Options :

92090619249. 1
92090619250. 2
92090619251. 3
92090619252. 4

Question Number : 13 Question Id : 9209064870 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

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- (1) $12\frac{5}{11}\%$ (2) $13\frac{7}{11}\%$
(3) $14\frac{6}{11}\%$ (4) $13\frac{5}{12}\%$

Options :

- 92090619249. 1
- 92090619250. 2
- 92090619251. 3
- 92090619252. 4

Question Number : 14 Question Id : 9209064871 Question Type : MCQ Option Shuffling : No 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 solid metallic hemisphese having radius R is melted and recasted as a cone with the same base radius R. If H is the height of the cone so formed, then the relation between H and R is:

- (1) $H=2R$
- (2) $H=\frac{2}{3}R$
- (3) $H=\sqrt{3}R$
- (4) $H=3R$

Options :

- 92090619253. 1
- 92090619254. 2
- 92090619255. 3
- 92090619256. 4

Question Number : 14 Question Id : 9209064871 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

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- (1) $H=2R$
- (2) $H=\frac{2}{3}R$
- (3) $H=\sqrt{3}R$
- (4) $H=3R$

Options :

- 92090619253. 1
- 92090619254. 2
- 92090619255. 3
- 92090619256. 4

Question Number : 15 Question Id : 9209064872 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Ten men working 8 hours a day can do a work in 15 days. How many more men need to be employed to do the same work in 10 days. If everyone works 10 hours per day?

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

Options :

- 92090619257. 1
- 92090619258. 2
- 92090619259. 3
- 92090619260. 4

Question Number : 15 Question Id : 9209064872 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Ten men working 8 hours a day can do a work in 15 days. How many more men need to be employed to do the same work in 10 days. If everyone works 10 hours per day?

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

Options :

92090619257. 1
92090619258. 2
92090619259. 3
92090619260. 4

Question Number : 16 Question Id : 9209064873 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Pointing to a woman, sunil said, "She is the daughter of the only child of my grandmother."
How is the woman related to sunil?

- (1) Mother-in-law (2) Aunt
(3) Daughter (4) Sister

Options :

92090619261. 1
92090619262. 2
92090619263. 3
92090619264. 4

Question Number : 16 Question Id : 9209064873 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Pointing to a woman, sunil said, "She is the daughter of the only child of my grandmother."
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(3) Daughter (4) Sister

Options :

92090619261. 1
92090619262. 2
92090619263. 3
92090619264. 4

Question Number : 17 Question Id : 9209064874 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

In a certain code, MOTHER is written as QDGSNL, then how is TIGER written in that code?

- (1) SHFDQ (2) HFDSQ
(3) QDFHS (4) PQRST

Options :

92090619265. 1
92090619266. 2
92090619267. 3
92090619268. 4

Question Number : 17 Question Id : 9209064874 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

In a certain code, MOTHER is written as QDGSNL, then how is TIGER written in that code?

- (1) SHFDQ (2) HFDSQ
(3) QDFHS (4) PQRST

Options :

92090619265. 1
92090619266. 2
92090619267. 3
92090619268. 4

Question Number : 18 Question Id : 9209064875 Question Type : MCQ Option Shuffling : No 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 positions of how many digits in the number 6912345 will remain unchanged after the digits are rearranged in ascending order within the number?

- (1) Zero (2) One
(3) Two (4) Three

Options :

92090619269. 1
92090619270. 2
92090619271. 3
92090619272. 4

Question Number : 18 Question Id : 9209064875 Question Type : MCQ Option Shuffling : No 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 positions of how many digits in the number 6912345 will remain unchanged after the digits are rearranged in ascending order within the number?

- (1) Zero (2) One
(3) Two (4) Three

Options :

92090619269. 1
92090619270. 2
92090619271. 3
92090619272. 4

Question Number : 19 Question Id : 9209064876 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Decide which of the arguments is a 'strong argument' and which is a 'weak argument'.

Statement : Should India support all the international policies of Russia?

Arguments :

- (I) Yes, This is the only way to gain access to Russia developmental funds.
- (II) No, Many other powerful countries do not support the same.

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

- (1) Only argument I is strong.
- (2) Only argument II is strong.
- (3) Either I or II is strong.
- (4) Neither I or II is strong.

Options :

- 92090619273. 1
- 92090619274. 2
- 92090619275. 3
- 92090619276. 4

Question Number : 19 Question Id : 9209064876 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Decide which of the arguments is a 'strong argument' and which is a 'weak argument'.

Statement : Should India support all the international policies of Russia?

Arguments :

- (I) Yes, This is the only way to gain access to Russia developmental funds.
- (II) No, Many other powerful countries do not support the same.

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

- (1) Only argument I is strong.
- (2) Only argument II is strong.
- (3) Either I or II is strong.
- (4) Neither I or II is strong.

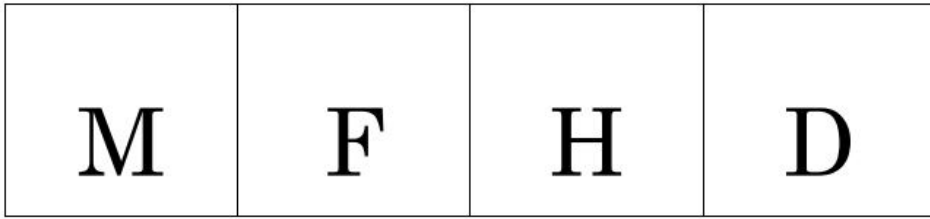
Options :

- 92090619273. 1
- 92090619274. 2
- 92090619275. 3
- 92090619276. 4

Question Number : 20 Question Id : 9209064877 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Choose the figure which is different from others



(a)

(b)

(c)

(d)

(1) (a)

(2) (b)

(3) (c)

(4) (d)

Options :

92090619277. 1

92090619278. 2

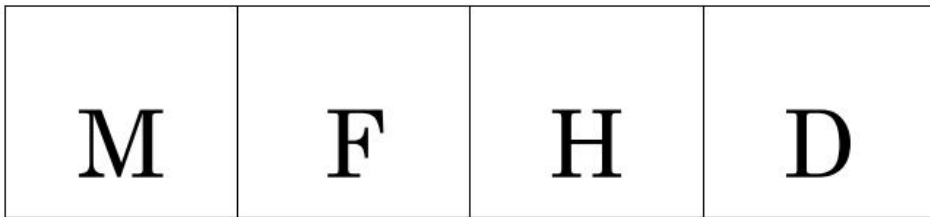
92090619279. 3

92090619280. 4

Question Number : 20 Question Id : 9209064877 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Choose the figure which is different from others



(a)

(b)

(c)

(d)

(1) (a)

(2) (b)

(3) (c)

(4) (d)

Options :

92090619277. 1

92090619278. 2

92090619279. 3

92090619280. 4

Question Number : 21 Question Id : 9209064878 Question Type : MCQ Option Shuffling : No 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 hydropower plant in bhutan was inaugurated recently by Indian prime minister Narendra Modi?

- (1) Chhukha power plant (2) Daughter power plant
(3) Kurichha power plant (4) Mangdechha power plant

Options :

92090619281. 1
92090619282. 2
92090619283. 3
92090619284. 4

Question Number : 21 Question Id : 9209064878 Question Type : MCQ Option Shuffling : No 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 hydropower plant in bhutan was inaugurated recently by Indian prime minister Narendra Modi?

- (1) Chhukha power plant (2) Daughter power plant
(3) Kurichha power plant (4) Mangdechha power plant

Options :

92090619281. 1
92090619282. 2
92090619283. 3
92090619284. 4

Question Number : 22 Question Id : 9209064879 Question Type : MCQ Option Shuffling : No 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 (Term)	List II (Explanation)
(A) Fiscal Deficit	(I) Excess of total expenditure over total receipts, less borrowing
(B) Budget Deficit	(II) Excess of total expenditure over total receipts
(C) Revenue Deficit	(III) Excess of revenue expenditure over revenue receipts
(D) Primary Deficit	(IV) Excess of total expenditure over total receipts, less borrowings and interest payment.

Choose the correct answer from the options given below:

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

Options :

92090619285. 1
92090619286. 2
92090619287. 3
92090619288. 4

Question Number : 22 Question Id : 9209064879 Question Type : MCQ Option Shuffling : No 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 (Term)	List II (Explanation)
(A) Fiscal Deficit	(I) Excess of total expenditure over total receipts, less borrowing
(B) Budget Deficit	(II) Excess of total expenditure over total receipts
(C) Revenue Deficit	(III) Excess of revenue expenditure over revenue receipts
(D) Primary Deficit	(IV) Excess of total expenditure over total receipts, less borrowings and interest payment.

Choose the correct answer from the options given below:

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

Options :

- 92090619285. 1
- 92090619286. 2
- 92090619287. 3
- 92090619288. 4

Question Number : 23 Question Id : 9209064880 Question Type : MCQ Option Shuffling : No 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 second round table conference at landen was held in the backdrop of_____.

- (1) Emerson-gandhi pact
- (2) Hailey-Gandhi pact
- (3) Gandhi-Irwin pact
- (4) Gandhi-Simon pact

Options :

- 92090619289. 1
- 92090619290. 2
- 92090619291. 3
- 92090619292. 4

Question Number : 23 Question Id : 9209064880 Question Type : MCQ Option Shuffling : No 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 second round table conference at landen was held in the backdrop of_____.

- (1) Emerson-gandhi pact
- (2) Hailey-Gandhi pact
- (3) Gandhi-Irwin pact
- (4) Gandhi-Simon pact

Options :

- 92090619289. 1
- 92090619290. 2
- 92090619291. 3
- 92090619292. 4

Question Number : 24 Question Id : 9209064881 Question Type : MCQ Option Shuffling : No 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 velocity of sound in air increases due to the presence of moisture in air.

Reasons (R) : The pressure of moisture in air increases the density of air.

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 :

92090619293. 1

92090619294. 2

92090619295. 3

92090619296. 4

Question Number : 24 Question Id : 9209064881 Question Type : MCQ Option Shuffling : No 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 velocity of sound in air increases due to the presence of moisture in air.

Reasons (R) : The pressure of moisture in air increases the density of air.

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 :

92090619293. 1

92090619294. 2

92090619295. 3

92090619296. 4

Question Number : 25 Question Id : 9209064882 Question Type : MCQ Option Shuffling : No 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 constitution of India is a liberal Constitution.

Statement II : It provides fundamental rights to individual.

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 :

- 92090619297. 1
- 92090619298. 2
- 92090619299. 3
- 92090619300. 4

Question Number : 25 Question Id : 9209064882 Question Type : MCQ Option Shuffling : No 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 constitution of India is a liberal Constitution.

Statement II : It provides fundamental rights to individual.

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 :

- 92090619297. 1
- 92090619298. 2
- 92090619299. 3
- 92090619300. 4

Part B: Chemistry

Section Id :	92090698
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 : 920906157
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 26 Question Id : 9209064883 Question Type : MCQ Option Shuffling : No 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 structure of XeF_6 is distorted octahedron.

Reasons (R) : The molecular orbital approach predicts correct structure of XeF_6 .

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 :

92090619301. 1
92090619302. 2
92090619303. 3
92090619304. 4

Question Number : 26 Question Id : 9209064883 Question Type : MCQ Option Shuffling : No 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 (Reasons (R)) के रूप में :

अभिकथन (A) : XeF_6 की विकृत अष्टफलकीय संरचना है।

कारण (R) : आण्विक कक्षक मॉडल XeF_6 की सही संरचना को परिकल्पित करता 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 :

92090619301. 1
92090619302. 2
92090619303. 3
92090619304. 4

Question Number : 27 Question Id : 9209064884 Question Type : MCQ Option Shuffling : No 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 partial molar Gibbs free energy for an ideal gas is given by the expression

- (1) $\mu_i = \mu_i(T) + RT \ln x_i$ (2) $\mu_i = \mu_i^\circ(T) + RT \ln p$
 (3) $\mu_i = \mu_i(\text{pure}) + RT \ln x_i$ (4) $\mu_i = \mu_i(\text{pure}) + RT \ln p$

Options :

92090619305. 1
 92090619306. 2
 92090619307. 3
 92090619308. 4

Question Number : 27 Question Id : 9209064884 Question Type : MCQ Option Shuffling : No 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 आदर्श गैस के लिए आंशिक मोलर गिब्स मुक्त ऊर्जा को किसके द्वारा अभिव्यक्त किया गया ?

- (1) $\mu_i = \mu_i(T) + RT \ln x_i$ (2) $\mu_i = \mu_i^\circ(T) + RT \ln p$
 (3) $\mu_i = \mu_i(\text{शुद्ध}) + RT \ln x_i$ (4) $\mu_i = \mu_i(\text{शुद्ध}) + RT \ln p$

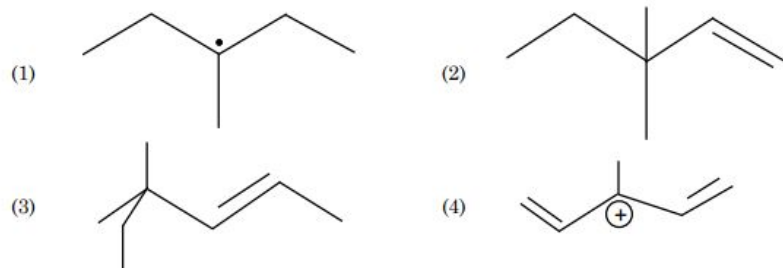
Options :

92090619305. 1
 92090619306. 2
 92090619307. 3
 92090619308. 4

Question Number : 28 Question Id : 9209064885 Question Type : MCQ Option Shuffling : No 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 structure will show the $\sigma(\text{C-H})-\pi$ hyperconjugation?



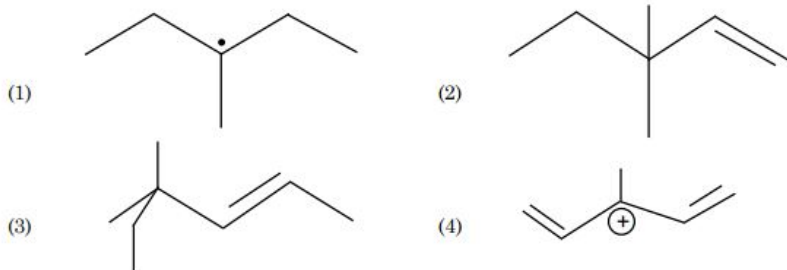
Options :

92090619309. 1
 92090619310. 2
 92090619311. 3
 92090619312. 4

Question Number : 28 Question Id : 9209064885 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
 Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्न में से कौन सी संरचना $\sigma(\text{C}-\text{H})-\pi$ अतिसंयुग्मन को प्रदर्शित करेगी ?



Options :

92090619309. 1
 92090619310. 2
 92090619311. 3
 92090619312. 4

Question Number : 29 Question Id : 9209064886 Question Type : MCQ Option Shuffling : No 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 value of Madelung constant is determined by the geometry of the crystal lattice and is independent of ionic radius.

Statement II : The Born exponent depends on the type of ion involved in Born Lande equation.

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

- (1) Both Statement I and Statement II are correct
 (2) Both Statement I and Statement II are incorrect
 (3) Statement I is correct but Statement II is incorrect
 (4) Statement I is incorrect but Statement II is correct

Options :

92090619313. 1
 92090619314. 2
 92090619315. 3
 92090619316. 4

Question Number : 29 Question Id : 9209064886 Question Type : MCQ Option Shuffling : No 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 : मैण्डलिंग रिचरांक का मान क्रिस्टल जालक की ज्यामिति द्वारा निर्धारित किया जाता है ना कि आयनिक त्रिज्या से।

कथन II : बोरन चरघातांक बॉर्न लैन्डे समीकरण में सम्मिलित आयनों के प्रकार पर निर्भर करता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त 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 :

92090619313. 1
92090619314. 2
92090619315. 3
92090619316. 4

Question Number : 30 Question Id : 9209064887 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Match List I with List II :

List I	List II
(A) Cubic	(I) $\alpha = \beta = 90^\circ, \gamma = 120^\circ$
(B) Hexagonal	(II) $\alpha \neq \beta \neq \gamma = 90^\circ$
(C) Monoclinic	(III) $\alpha = \beta = \gamma = 90^\circ$
(D) Triclinic	(IV) $\alpha = \beta = 90^\circ, \gamma \neq 90^\circ$

Choose the correct answer from the options given below :

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

Options :

92090619317. 1
92090619318. 2
92090619319. 3
92090619320. 4

Question Number : 30 Question Id : 9209064887 Question Type : MCQ Option Shuffling : No 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) घनीय	(I) $\alpha = \beta = 90^\circ, \gamma = 120^\circ$
(B) षट्कोणीय	(II) $\alpha \neq \beta \neq \gamma = 90^\circ$
(C) एकनताक्ष	(III) $\alpha = \beta = \gamma = 90^\circ$
(D) त्रिनताक्ष	(IV) $\alpha = \beta = 90^\circ, \gamma \neq 90^\circ$

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

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

Options :

92090619317. 1

92090619318. 2

92090619319. 3

92090619320. 4

Question Number : 31 Question Id : 9209064888 Question Type : MCQ Option Shuffling : No 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) : Interhalogens are more reactive than halogens.

Reasons (R) : The central atom in interhalogens is always more electronegative halogen atom.

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 :

92090619321. 1

92090619322. 2

92090619323. 3

92090619324. 4

Question Number : 31 Question Id : 9209064888 Question Type : MCQ Option Shuffling : No 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 (Reasons (R)) के रूप में :

अभिकथन (A) : अंतराहैलोजन हैलोजन से अधिक क्रियाशील होते हैं।

कारण (R) : अंतराहैलोजन का केन्द्रीय परमाणु हैलोजन से हमेशा अधिक विद्युतऋणी 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 है, लेकिन (R) सही नहीं है
- (4) (A) सही नहीं है, लेकिन (R) सही है

Options :

- 92090619321. 1
- 92090619322. 2
- 92090619323. 3
- 92090619324. 4

Question Number : 32 Question Id : 9209064889 Question Type : MCQ Option Shuffling : No 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) : Pyrrole is less basic than pyridine.

Reasons (R) : Lone pair of electrons on N-atom are delocalised to the ring in the case of pyrrole.

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 :

- 92090619325. 1
- 92090619326. 2
- 92090619327. 3
- 92090619328. 4

Question Number : 32 Question Id : 9209064889 Question Type : MCQ Option Shuffling : No 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 (Reasons (R)) के रूप में :

अभिकथन (A) : पाइरोल पिरिडीन से कम क्षारीय है।

कारण (R) : पाइरोल के संदर्भ में N परमाणु पर एकांकी इलेक्ट्रान युग्म वलय में विस्थानीकृत 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 है, लेकिन (R) सही नहीं है
- (4) (A) सही नहीं है, लेकिन (R) सही है

Options :

92090619325. 1
92090619326. 2
92090619327. 3
92090619328. 4

Question Number : 33 Question Id : 9209064890 Question Type : MCQ Option Shuffling : No 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 can act as electrophile?

- | | |
|--------------------|--------------------|
| (1) SiF_4 | (2) CCl_4 |
| (3) CH_4 | (4) NH_3 |

Options :

92090619329. 1
92090619330. 2
92090619331. 3
92090619332. 4

Question Number : 33 Question Id : 9209064890 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्न में से कौन से इलेक्ट्रान रागी की तरह काम कर सकते हैं?

- | | |
|--------------------|--------------------|
| (1) SiF_4 | (2) CCl_4 |
| (3) CH_4 | (4) NH_3 |

Options :

92090619329. 1
92090619330. 2
92090619331. 3
92090619332. 4

Question Number : 34 Question Id : 9209064891 Question Type : MCQ Option Shuffling : No 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) : Ammonium nitrate is used as a salt bridge.

Reasons (R) : In ammonium nitrate $t_+ = t_-$

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 :

- 92090619333. 1
- 92090619334. 2
- 92090619335. 3
- 92090619336. 4

Question Number : 34 Question Id : 9209064891 Question Type : MCQ Option Shuffling : No 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 (Reasons (R)) के रूप में :

अभिकथन (A) : अमोनियम नाइट्रेट लवण सेतु की तरह उपयोग होता है।

कारण (R) : अमोनियम नाइट्रेट में $t_+ = t_-$.

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

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

Options :

- 92090619333. 1
- 92090619334. 2
- 92090619335. 3
- 92090619336. 4

Question Number : 35 Question Id : 9209064892 Question Type : MCQ Option Shuffling : No 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 solubility of alkaline earth metal sulphates in water decrease in the order $\text{BeSO}_4 > \text{MgSO}_4 > \text{CaSO}_4 > \text{SrSO}_4 > \text{BaSO}_4$. This is because

- (A) Hydration energy increases down the group
- (B) The rate of decrease of hydration energy is higher than the rate of decrease of lattice energy
- (C) Lattice energy increases down the group
- (D) Hydration energy of Be^{2+} and Mg^{2+} are very high
- (E) Covalency is increasing down the group

Choose the correct answer from the options given below :

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

Options :

- 92090619337. 1
- 92090619338. 2
- 92090619339. 3
- 92090619340. 4

Question Number : 35 Question Id : 9209064892 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 4 Wrong Marks : 1

क्षारकीय मृदा धातु सल्फेटों की जल में विलेयता का घटता हुआ क्रम है $\text{BeSO}_4 > \text{MgSO}_4 > \text{CaSO}_4 > \text{SrSO}_4 > \text{BaSO}_4$ इसका कारण है

- (A) जलयोजन ऊर्जा वर्ग में नीचे जाने पर बढ़ती है।
- (B) जलयोजन ऊर्जा की घटने की दर जालक ऊर्जा के घटने की दर से ज्यादा होती है।
- (C) जालक ऊर्जा वर्ग में नीचे जाने पर बढ़ती है।
- (D) Be^{2+} तथा Mg^{2+} की जलयोजन ऊर्जा बहुत उच्च होती है।
- (E) संयोजकता वर्ग में नीचे जाने पर बढ़ती है।

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

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

Options :

- 92090619337. 1
- 92090619338. 2
- 92090619339. 3
- 92090619340. 4

Question Number : 36 Question Id : 9209064893 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 4 Wrong Marks : 1

Which of the following is the weakest chemical force?

- (1) Ion induced dipole interaction
- (2) Dipole induced dipole interaction
- (3) Dipole-dipole interaction
- (4) Ion-dipole interaction

Options :

- 92090619341. 1
- 92090619342. 2

92090619343. 3

92090619344. 4

Question Number : 36 Question Id : 9209064893 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1

निम्न में से कौन सा दुर्बलतम रासायनिक बल है ?

- (1) आयन प्रेरित द्विध्रुव अन्वोन्य क्रिया (2) द्विध्रुव प्रेरित द्विध्रुव अन्वोन्य क्रिया
(3) द्विध्रुव-द्विध्रुव अन्वोन्य क्रिया (4) आयन-द्विध्रुव अन्वोन्य क्रिया

Options :

92090619341. 1

92090619342. 2

92090619343. 3

92090619344. 4

Question Number : 37 Question Id : 9209064894 Question Type : MCQ Option Shuffling : No 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 collision diameter of H_2 gas is ' x ' m and the collision frequency is Z_{H_2} , what will be the collision frequency of O_2 gas (Z_{O_2}) if its collision diameter is ' $2x$ '?

- (1) $Z_{H_2} = Z_{O_2}$ (2) $Z_{H_2} = 2Z_{O_2}$
(3) $Z_{H_2} = 4Z_{O_2}$ (4) $2Z_{H_2} = Z_{O_2}$

Options :

92090619345. 1

92090619346. 2

92090619347. 3

92090619348. 4

Question Number : 37 Question Id : 9209064894 Question Type : MCQ Option Shuffling : No 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 H_2 का संघट्ट व्यास ' x ' m तथा संघट्ट आवृत्ति Z_{H_2} है O_2 की संघट्ट आवृत्ति क्या होगी यदि इसका संघट्ट व्यास ' $2x$ ' है ?

- (1) $Z_{H_2} = Z_{O_2}$ (2) $Z_{H_2} = 2Z_{O_2}$
(3) $Z_{H_2} = 4Z_{O_2}$ (4) $2Z_{H_2} = Z_{O_2}$

Options :

92090619345. 1

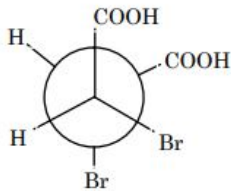
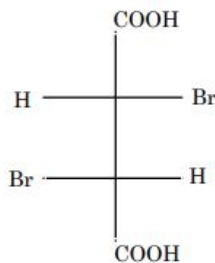
92090619346. 2

92090619347. 3

92090619348. 4

Question Number : 38 Question Id : 9209064895 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1

What is the relation between the following pair of compounds?



- (1) Enantiomers
 (2) Homomers
 (3) Identical
 (4) Diastereomers

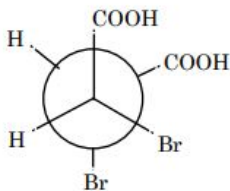
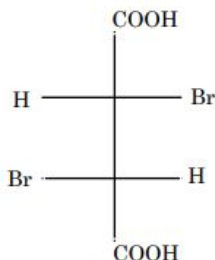
Options :

92090619349. 1
 92090619350. 2
 92090619351. 3
 92090619352. 4

Question Number : 38 Question Id : 9209064895 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित यौगिकों के समूह के बीच क्या संबंध है?



- (1) प्रतिबिंब रूप
 (2) होमोमर
 (3) समरूप
 (4) अप्रतिबिंब रूप (डाइस्टिरियोमर)

Options :

92090619349. 1
 92090619350. 2
 92090619351. 3
 92090619352. 4

Question Number : 39 Question Id : 9209064896 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

When a nucleophilic substitution reaction is carried out in DMSO, which of the following act as strongest nucleophile?

- (1) CH_3CO_2^-
 (2) Cl^-
 (3) I^-
 (4) CH_3O^-

Options :

92090619353. 1
 92090619354. 2
 92090619355. 3
 92090619356. 4

Question Number : 39 Question Id : 9209064896 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

जब नाभिकस्नेही प्रतिस्थापन अभिक्रिया DMSO में होती है, निम्न में कौन-सा प्रबलतम नाभिकस्नेही की तरह कार्य करता है।

- (1) CH_3CO_2^- (2) Cl^-
(3) I^- (4) CH_3O^-

Options :

92090619353. 1
92090619354. 2
92090619355. 3
92090619356. 4

Question Number : 40 Question Id : 9209064897 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Which among the following compounds will show the least C – O stretching frequency?

- (1) $[\text{Fe}(\text{CO})_4]^{2-}$ (2) $[\text{Co}(\text{CO})_4]^-$
(3) $[\text{Mn}(\text{CO})_6]^+$ (4) $[\text{Cr}(\text{CO})_6]$

Options :

92090619357. 1
92090619358. 2
92090619359. 3
92090619360. 4

Question Number : 40 Question Id : 9209064897 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्न में से कौन से यौगिक में C – O तनन आवृत्ति न्यूनतम है?

- (1) $[\text{Fe}(\text{CO})_4]^{2-}$ (2) $[\text{Co}(\text{CO})_4]^-$
(3) $[\text{Mn}(\text{CO})_6]^+$ (4) $[\text{Cr}(\text{CO})_6]$

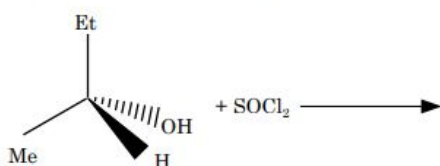
Options :

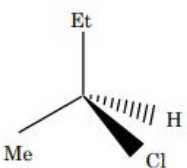
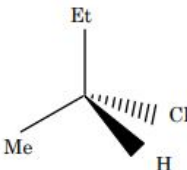
92090619357. 1
92090619358. 2
92090619359. 3
92090619360. 4

Question Number : 41 Question Id : 9209064898 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Predict the correct major product in the following reaction.



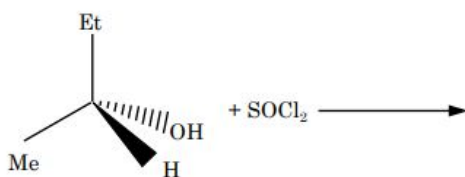
- (1)  (2) n-Butane
- (3)  (4) $\text{CH}_3 - \text{CH} = \text{CH} - \text{CH}_3$

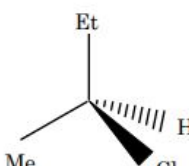
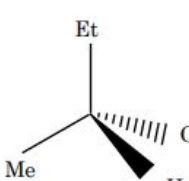
Options :

92090619361. 1
92090619362. 2
92090619363. 3
92090619364. 4

Question Number : 41 Question Id : 9209064898 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रिया में सही मुख्य उत्पाद बताइये।



- (1)  (2) n-Butane
- (3)  (4) $\text{CH}_3 - \text{CH} = \text{CH} - \text{CH}_3$

Options :

92090619361. 1
92090619362. 2
92090619363. 3
92090619364. 4

Question Number : 42 Question Id : 9209064899 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Postulates of collision theory are

- (A) Particles must collide with proper energy
- (B) Colliding particles must be of proper size
- (C) Colliding particles must have proper orientation
- (D) Colliding particles must be unreactive to atmosphere

Choose the correct answer from the options given below:

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

Options :

- 92090619365. 1
- 92090619366. 2
- 92090619367. 3
- 92090619368. 4

Question Number : 42 Question Id : 9209064899 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

संघट्ट सिद्धान्त के आधार तत्व है

- (A) कण उपयुक्त ऊर्जा के साथ संघट्ट करने चाहिए।
- (B) संघट्ट में अणुओं का उपयुक्त आकार होना चाहिए।
- (C) संघट्ट में अणुओं का उपयुक्त विन्यास होना चाहिए।
- (D) संघट्ट में अणुओं को वातावरण से अक्रियाशील रहने चाहिए।

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

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

Options :

- 92090619365. 1
- 92090619366. 2
- 92090619367. 3
- 92090619368. 4

Question Number : 43 Question Id : 9209064900 Question Type : MCQ Option Shuffling : No 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 orbital angular momentum of an electron in 2S orbital is

- (1) $+\frac{1}{2} \frac{h}{2\pi}$
- (2) zero
- (3) $-\frac{1}{2} \frac{h}{2\pi}$
- (4) $\frac{h}{2\pi}$

Options :

- 92090619369. 1
- 92090619370. 2
- 92090619371. 3
- 92090619372. 4

Question Number : 43 Question Id : 9209064900 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

2s कक्षक में एक इलेक्ट्रॉन का कक्षीय कोणीय संवेग

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

(2) शून्य

(3) $-\frac{1}{2}\frac{h}{2\pi}$

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

Options :

92090619369. 1

92090619370. 2

92090619371. 3

92090619372. 4

Question Number : 44 Question Id : 9209064901 Question Type : MCQ Option Shuffling : No 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 oxygen carrier and metal are found in arthropods and molluscs?

(1) Heamocyanin and Cu

(2) Heamocyanin and Fe

(3) Heamerythrins and Cu

(4) Heamerythrins and Zn

Options :

92090619373. 1

92090619374. 2

92090619375. 3

92090619376. 4

Question Number : 44 Question Id : 9209064901 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

संधिपाद तथा कवचधारी में कौन सा ऑक्सीजन वाहक तथा धातु पाई जाती है ?

(1) हीमोसायनिन तथा Cu

(2) हीमोसायनिन तथा Fe

(3) हीमोइरीथ्रीन तथा Cu

(4) हीमोइरीथ्रीन तथा Zn

Options :

92090619373. 1

92090619374. 2

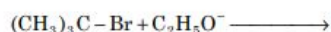
92090619375. 3

92090619376. 4

Question Number : 45 Question Id : 9209064902 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Predict the major product in the following reaction



(1) $(\text{CH}_3)_3\text{C}-\text{OC}_2\text{H}_5$

(2) $(\text{CH}_3)_3\text{C}-\text{OH}$

(3) $(\text{CH}_3)_2\text{C}=\text{CH}_2$

(4) $(\text{CH}_3)_3\text{C}-\text{OCH}_3$

Options :

92090619377. 1

92090619378. 2

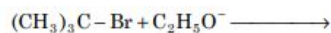
92090619379. 3

92090619380. 4

Question Number : 45 Question Id : 9209064902 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रिया में मुख्य उत्पाद अनुमानित कीजिए।



- (1) $(\text{CH}_3)_3\text{C}-\text{OC}_2\text{H}_5$ (2) $(\text{CH}_3)_3\text{C}-\text{OH}$
(3) $(\text{CH}_3)_2\text{C}=\text{CH}_2$ (4) $(\text{CH}_3)_3\text{C}-\text{OCH}_3$

Options :

92090619377. 1
92090619378. 2
92090619379. 3
92090619380. 4

Question Number : 46 Question Id : 9209064903 Question Type : MCQ Option Shuffling : No 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 capillary tube of radius 0.105 mm is dipped into a liquid whose density is 0.79 g cm^{-3} . The liquid rises in this capillary to a height of 6.30 cm. Calculate the surface tension of the liquid ($g = 980 \text{ cm sec}^{-2}$)

- (1) $25.6 \text{ dynes cm}^{-1}$ (2) $51.2 \text{ dynes cm}^{-1}$
(3) $12.8 \text{ dynes cm}^{-1}$ (4) $20.6 \text{ dynes cm}^{-1}$

Options :

92090619381. 1
92090619382. 2
92090619383. 3
92090619384. 4

Question Number : 46 Question Id : 9209064903 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

0.105 mm त्रिज्या की केशिका नली 6.30 cm घनत्व वाले द्रव में डुबी हुई है। इस केशिका में 0.79 g cm^{-3} की ऊंचाई तक द्रव चढ़ता है। द्रव के पृष्ठ तनाव की गणना कीजिए। ($g = 980 \text{ cm sec}^{-2}$)

- (1) $25.6 \text{ डाइनस सेमी}^{-1}$ (2) $51.2 \text{ डाइनस सेमी}^{-1}$
(3) $12.8 \text{ डाइनस सेमी}^{-1}$ (4) $20.6 \text{ डाइनस सेमी}^{-1}$

Options :

92090619381. 1
92090619382. 2
92090619383. 3
92090619384. 4

Question Number : 47 Question Id : 9209064904 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

The number of geometrical isomers for complex $[\text{MA}_2\text{B}_2\text{C}_2]$ is

- (1) Three (2) Four
(3) Five (4) Six

Options :

92090619385. 1
92090619386. 2
92090619387. 3
92090619388. 4

Question Number : 47 Question Id : 9209064904 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

[MA₂B₂C₂] संकुल के लिए ज्यामितीय समावयवता की संख्या है:

- (1) तीन (2) चार
(3) पांच (4) छः

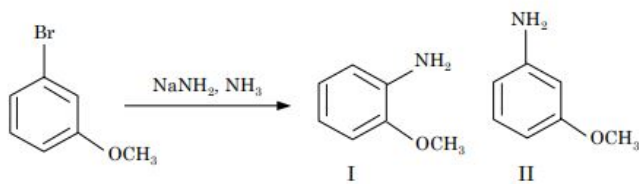
Options :

92090619385. 1
92090619386. 2
92090619387. 3
92090619388. 4

Question Number : 48 Question Id : 9209064905 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Predict the correct product (s) in the following reaction



- (1) Only I (2) Only II
(3) Both I and II (4) Neither I nor II

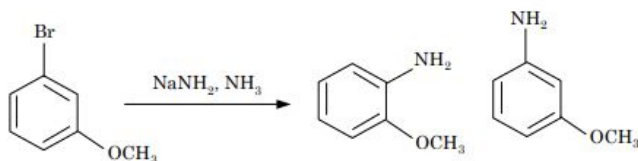
Options :

92090619389. 1
92090619390. 2
92090619391. 3
92090619392. 4

Question Number : 48 Question Id : 9209064905 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रिया में सही उत्पाद बताइए।



- (1) केवल I (2) केवल II
(3) दोनों I तथा II (4) न I न ही II

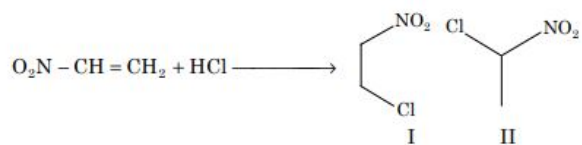
Options :

92090619389. 1
92090619390. 2
92090619391. 3
92090619392. 4

Question Number : 49 Question Id : 9209064906 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Predict the correct major product(s) in the following reaction.



- (1) Only I as major (2) Only II as major
 (3) Both I and II in equal amounts (4) Neither I nor II

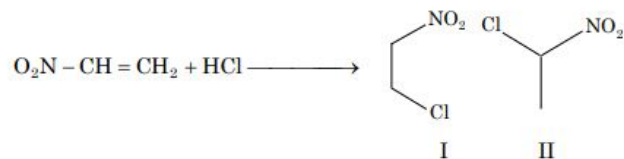
Options :

92090619393. 1
 92090619394. 2
 92090619395. 3
 92090619396. 4

Question Number : 49 Question Id : 9209064906 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रिया में मुख्य उत्पाद बताइए



- (1) केवल I मुख्य है (2) केवल II मुख्य है
 (3) दोनों I तथा II समान मात्रा में है (4) ना I ना ही II

Options :

92090619393. 1
 92090619394. 2
 92090619395. 3
 92090619396. 4

Question Number : 50 Question Id : 9209064907 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Two equal and opposite charges i.e. $\pm q = 1.6 \times 10^{-19} \text{ C}$ are separated by a distance of 0.25 nm. Compute the dipole moment in D.

- (1) 1.1994 D (2) 11.994 D
 (3) 4×10^{-29} D (4) 4 D

Options :

92090619397. 1
 92090619398. 2
 92090619399. 3
 92090619400. 4

Question Number : 50 Question Id : 9209064907 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

दो समान तथा विरत आवेश, $\pm q = 1.6 \times 10^{-19} \text{ C}$, 0.25 nm की दूरी से अलग हैं। विद्युव आघूर्ण (डिबाई (D) में) परिकलित कीजिए।

- (1) 1.1994 डिबाई (2) 11.994 डिबाई
 (3) 4×10^{-29} डिबाई (4) 4 डिबाई

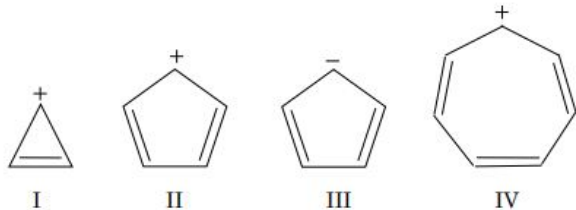
Options :

92090619397. 1
92090619398. 2
92090619399. 3
92090619400. 4

Question Number : 51 Question Id : 9209064908 Question Type : MCQ Option Shuffling : No 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 Huckel's rule which of the following is not aromatic?



(1) I
(3) III

(2) II
(4) IV

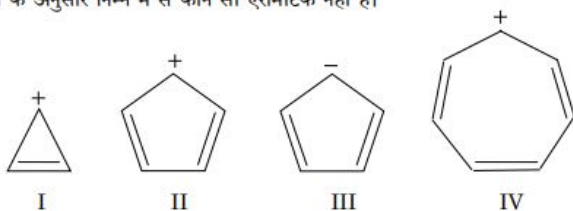
Options :

92090619401. 1
92090619402. 2
92090619403. 3
92090619404. 4

Question Number : 51 Question Id : 9209064908 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

हकल नियम के अनुसार निम्न में से कौन सा ऐरोमैटिक नहीं है।



(1) I
(3) III

(2) II
(4) IV

Options :

92090619401. 1
92090619402. 2
92090619403. 3
92090619404. 4

Question Number : 52 Question Id : 9209064909 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

92090619412. 4

Question Number : 53 Question Id : 9209064910 Question Type : MCQ Option Shuffling : No 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 तंत्र में जब कैल्शियम कार्बोनेट का तापीय अपघटन करते हैं तो प्रावस्था की संख्या है:

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

Options :

92090619409. 1

92090619410. 2

92090619411. 3

92090619412. 4

Question Number : 54 Question Id : 9209064911 Question Type : MCQ Option Shuffling : No 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 which of the following reactions H_2O_2 is not an oxidising agent?

- (1) $2 FeCl_2 + H_2O_2 + 2HCl \rightarrow FeCl_3 + 2H_2O$
(2) $Cl_2 + H_2O_2 \rightarrow 2HCl + O_2$
(3) $H_2SO_3 + H_2O_2 \rightarrow H_2SO_4 + H_2O$
(4) $2HI + H_2O_2 \rightarrow 2H_2O + I_2$

Options :

92090619413. 1

92090619414. 2

92090619415. 3

92090619416. 4

Question Number : 54 Question Id : 9209064911 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्न में से कौन सी अभिक्रिया में H_2O_2 एक ऑक्सीकारक नहीं है?

- (1) $2 FeCl_2 + H_2O_2 + 2HCl \rightarrow FeCl_3 + 2H_2O$
(2) $Cl_2 + H_2O_2 \rightarrow 2HCl + O_2$
(3) $H_2SO_3 + H_2O_2 \rightarrow H_2SO_4 + H_2O$
(4) $2HI + H_2O_2 \rightarrow 2H_2O + I_2$

Options :

92090619413. 1

92090619414. 2

92090619415. 3

92090619416. 4

Question Number : 55 Question Id : 9209064912 Question Type : MCQ Option Shuffling : No 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 the incorrect statement regarding pyridine from the following

- (1) Pyridine is less basic than pyrrole
(2) All carbon-carbon bond lengths in pyridine are of equal length
(3) Pyridine has resonance energy of $125.5 \text{ kJ mol}^{-1}$
(4) All atoms in pyridine are sp^2 -hybridized

Options :

92090619417. 1

92090619418. 2
92090619419. 3
92090619420. 4

Question Number : 55 Question Id : 9209064912 Question Type : MCQ Option Shuffling : No 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 पिरिडीन से संबंधित गलत कथन को पहचानिए।

- (1) पिरिडीन पाइरोल से कम क्षारीय है।
- (2) पिरिडीन में सभी कार्बन-कार्बन बन्ध की लम्बाई समान होती है।
- (3) पिरिडीन में अनुनादी ऊर्जा 125.5 kJmol^{-1} है।
- (4) पिरिडीन में सभी परमाणु sp^2 संकरित होते हैं।

Options :

92090619417. 1
92090619418. 2
92090619419. 3
92090619420. 4

Question Number : 56 Question Id : 9209064913 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1

Which among the following will not follow the Effective Atomic Number rule?

- | | |
|---|--------------------------------|
| (1) $[\text{Mn}(\text{CO})_5]^-$ | (2) $\text{Co}_2(\text{CO})_8$ |
| (3) $\text{Rh}_2(\text{CO})_4\text{Cl}_2$ | (4) $\text{Ni}(\text{PF}_3)_4$ |

Options :

92090619421. 1
92090619422. 2
92090619423. 3
92090619424. 4

Question Number : 56 Question Id : 9209064913 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1

निम्न में से कौन सा प्रभावी आण्विक संख्या नियम का पालन नहीं करता है?

- | | |
|---|--------------------------------|
| (1) $[\text{Mn}(\text{CO})_5]^-$ | (2) $\text{Co}_2(\text{CO})_8$ |
| (3) $\text{Rh}_2(\text{CO})_4\text{Cl}_2$ | (4) $\text{Ni}(\text{PF}_3)_4$ |

Options :

92090619421. 1
92090619422. 2
92090619423. 3
92090619424. 4

Question Number : 57 Question Id : 9209064914 Question Type : MCQ Option Shuffling : No 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) : Order and molecularity are same.

Reasons (R) : Order is determined experimentally and molecularity is the sum of the stoichiometric coefficient of rate determining elementary step.

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 :

92090619425. 1
92090619426. 2
92090619427. 3
92090619428. 4

Question Number : 57 Question Id : 9209064914 Question Type : MCQ Option Shuffling : No 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 (Reasons (R)) के रूप में :

अभिकथन (A) : कोटि तथा आण्विकता समान होती है।

कारण (R) : कोटि का निर्धारण प्रायोगिक होता है तथा आण्विकता प्राथमिक अभिक्रिया में भाग लेने वाले वेग निर्धारित के स्टॉइकियोमिटी गुणांक का जोड़ होता है।

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

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

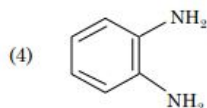
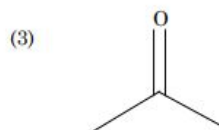
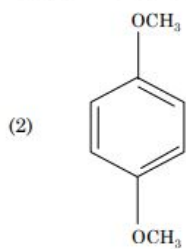
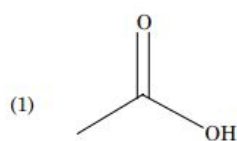
Options :

92090619425. 1
92090619426. 2
92090619427. 3
92090619428. 4

Question Number : 58 Question Id : 9209064915 Question Type : MCQ Option Shuffling : No 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 compounds gives only one peak in the proton NMR?



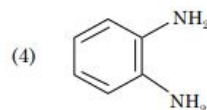
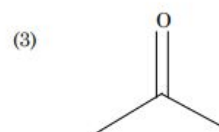
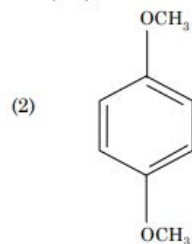
Options :

- 92090619429. 1
- 92090619430. 2
- 92090619431. 3
- 92090619432. 4

Question Number : 58 Question Id : 9209064915 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

. निम्न में से कौन सा यौगिक, प्रोटोन NMR में, केवल एक संकेत देता है?



Options :

- 92090619429. 1
- 92090619430. 2
- 92090619431. 3
- 92090619432. 4

Question Number : 59 Question Id : 9209064916 Question Type : MCQ Option Shuffling : No 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 factors affects the magnitude of crystal field splitting (Δ)?

- (A) Oxidation state of metal ion
- (B) Coordination number of metal ion
- (C) EN of the donor atom of ligand
- (D) Position of metal ion in d block

Choose the correct option :

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

Options :

- 92090619433. 1
- 92090619434. 2
- 92090619435. 3
- 92090619436. 4

Question Number : 59 Question Id : 9209064916 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्न में से कौन से कारक क्रिस्टल क्षेत्र विपाटन (Δ) के परिमाण को प्रभावित करते हैं?

- (A) धातु आयन की आक्सीकरण अवस्था
- (B) धातु आयन की समन्वय संख्या
- (C) लिगेण्ड के दाता परमाणु की विद्युतऋणता
- (D) d ब्लॉक में धातु आयन की स्थिति

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

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

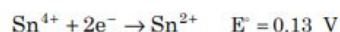
Options :

- 92090619433. 1
- 92090619434. 2
- 92090619435. 3
- 92090619436. 4

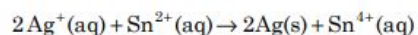
Question Number : 60 Question Id : 9209064917 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Given the following standard reduction potentials :



The value of ΔG° for the reaction is :



- (1) $-1.3 \times 10^5 \text{ J}$
- (2) $1.3 \times 10^5 \text{ J}$
- (3) $-0.65 \times 10^5 \text{ J}$
- (4) $+0.65 \times 10^5 \text{ J}$

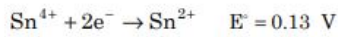
Options :

- 92090619437. 1
- 92090619438. 2

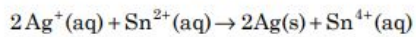
92090619439. 3
92090619440. 4

**Question Number : 60 Question Id : 9209064917 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1**

निम्नलिखित मानक अपचयन विभव दिए गए हैं।



अभिक्रिया के लिए ΔG° का मान है।



- (1) $-1.3 \times 10^5 \text{ J}$ (2) $1.3 \times 10^5 \text{ J}$
(3) $-0.65 \times 10^5 \text{ J}$ (4) $+0.65 \times 10^5 \text{ J}$

Options :

92090619437. 1
92090619438. 2
92090619439. 3
92090619440. 4

**Question Number : 61 Question Id : 9209064918 Question Type : MCQ Option Shuffling : No 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 activity of 'm' molar CuSO_4 solution can be expressed in terms of its mean activity coefficient

- (A) $m^2 \gamma_{\pm}^2$
(B) $4m^3 \gamma_{\pm}^3$
(C) $16m^4 \gamma_{\pm}^4$
(D) $108 m^5 \gamma_{\pm}^5$

Choose the correct answer from the options given below:

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

Options :

92090619441. 1
92090619442. 2
92090619443. 3
92090619444. 4

**Question Number : 61 Question Id : 9209064918 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1**

'm' मोलर CuSO_4 विलयन की सक्रियता को इसकी औसत सक्रियता गुणांक के प्रसंग में अभिव्यक्त कर सकते हैं:

- (A) $m^2 \gamma_{\pm}^2$
- (B) $4m^3 \gamma_{\pm}^3$
- (C) $16m^4 \gamma_{\pm}^4$
- (D) $108m^5 \gamma_{\pm}^5$

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

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

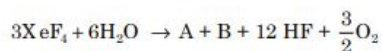
Options :

- 92090619441. 1
- 92090619442. 2
- 92090619443. 3
- 92090619444. 4

Question Number : 62 Question Id : 9209064919 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

What will be A and B in the following reaction?



- (1) A = XeO_2 and B = 2XeO_2
- (2) A = 2Xe and B = XeO_2
- (3) A = 2Xe and B = XeO_3
- (4) A = Xe_2O and B = XeO_2

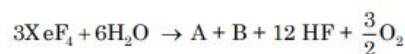
Options :

- 92090619445. 1
- 92090619446. 2
- 92090619447. 3
- 92090619448. 4

Question Number : 62 Question Id : 9209064919 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रिया में A तथा B होगा:



- (1) A = XeO_2 तथा B = 2XeO_2
- (2) A = 2Xe तथा B = XeO_2
- (3) A = 2Xe तथा B = XeO_3
- (4) A = Xe_2O तथा B = XeO_2

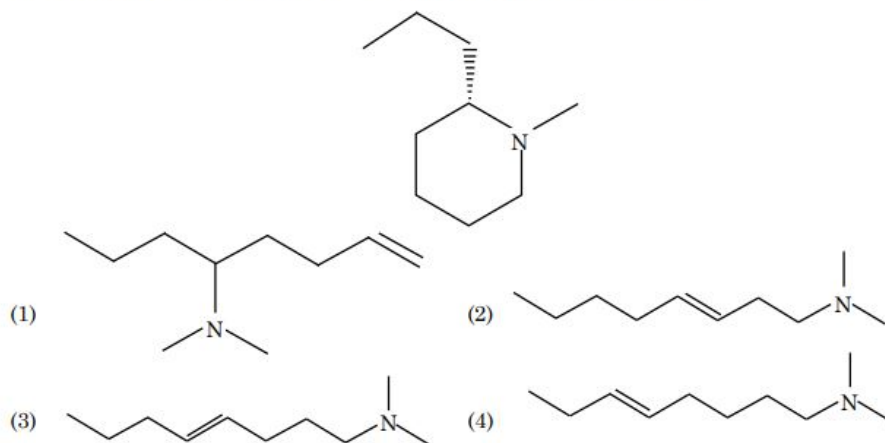
Options :

- 92090619445. 1
- 92090619446. 2
- 92090619447. 3
- 92090619448. 4

Question Number : 63 Question Id : 9209064920 Question Type : MCQ Option Shuffling : No 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, which of the following is not the product of the given compound when it is subjected to Hoffmann's exhaustive methylation-elimination reaction using CH_3I



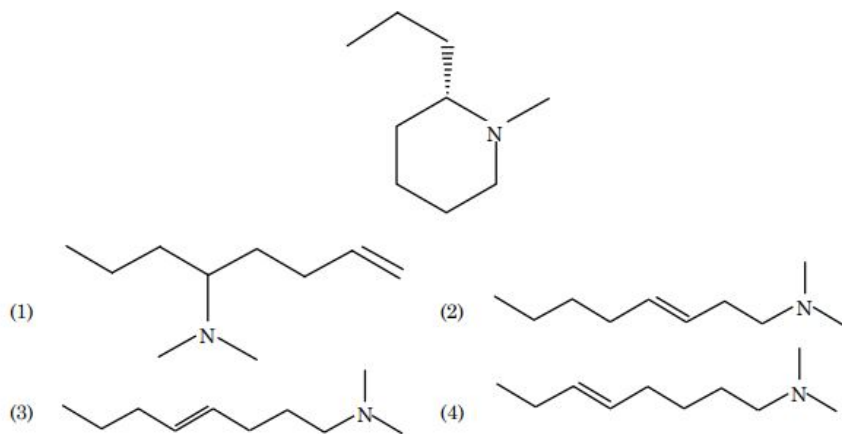
Options :

92090619449. 1
 92090619450. 2
 92090619451. 3
 92090619452. 4

Question Number : 63 Question Id : 9209064920 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

पहचानिये, निम्न में से कौन सा दिये गये यौगिक का उत्पाद नहीं है जब इसमें CH_3I का उपयोग करके होफमान सम्पूर्ण (इग्जोस्टीव) मेथिलिकरण विलोपन अभिक्रिया की गई हो।



Options :

92090619449. 1
 92090619450. 2
 92090619451. 3
 92090619452. 4

Question Number : 64 Question Id : 9209064921 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Scope of Ellingham plots for metal oxides and carbon monoxide formation from elements are respectively

- (1) Positive and negative
 (2) Positive and positive
 (3) Negative and positive
 (4) Negative and Negative

Options :

- 92090619453. 1
- 92090619454. 2
- 92090619455. 3
- 92090619456. 4

Question Number : 64 Question Id : 9209064921 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

तत्वों से बने हुए क्रमशः धातु आक्साइड तथा कार्बन मोनो आक्साइड के लिए एलिंगम आलेख का विस्तार है।

- (1) धनात्मक तथा ऋणात्मक
- (2) धनात्मक तथा धनात्मक
- (3) ऋणात्मक तथा धनात्मक
- (4) ऋणात्मक तथा ऋणात्मक

Options :

- 92090619453. 1
- 92090619454. 2
- 92090619455. 3
- 92090619456. 4

Question Number : 65 Question Id : 9209064922 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Among the following compounds, which one is used as Hinsberg reagent for identification of 1°, 2° and 3° amines?

- (1) Acetyl chloride
- (2) Benzoyl chloride
- (3) Benzenesulphonyl chloride
- (4) Benzylchloride

Options :

- 92090619457. 1
- 92090619458. 2
- 92090619459. 3
- 92090619460. 4

Question Number : 65 Question Id : 9209064922 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित यौगिकों में, कौन सा 1°, 2° तथा 3° ऐमीन की पहचान के लिए हिन्सबर्ग अभिकर्मक की तरह प्रयोग होता है।

- (1) एसिटिल क्लोराइड
- (2) बेन्जोइल क्लोराइड
- (3) बेन्जिनसल्फोनिल क्लोराइड
- (4) बेन्जिल क्लोराइड

Options :

- 92090619457. 1
- 92090619458. 2
- 92090619459. 3
- 92090619460. 4

Question Number : 66 Question Id : 9209064923 Question Type : MCQ Option Shuffling : No 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 photophysical processes are non-radiative?

- (A) Internal conversion
- (B) Inter system crossing
- (C) Fluorescence
- (D) Phosphorescence

Choose the correct answer from the options given below :

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

Options :

- 92090619461. 1
- 92090619462. 2
- 92090619463. 3
- 92090619464. 4

Question Number : 66 Question Id : 9209064923 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्न में से कौन सी प्रकाशभौतिकी प्रक्रिया अविकिरणी है।

- (A) आन्तरिक रूपान्तरण
- (B) ईन्टर सिस्टम क्रॉसिंग
- (C) प्रतिदीप्ति
- (D) स्फुरदीप्ति

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

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

Options :

- 92090619461. 1
- 92090619462. 2
- 92090619463. 3
- 92090619464. 4

Question Number : 67 Question Id : 9209064924 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Match List I with List II :

List I	List II
(A) Tungsten	(I) $5f^{12} 7s^2$
(B) Actinide	(II) ns^1
(C) Alkali metal	(III) $2s^2 2p^5$
(D) Most electronegative element	(IV) $4f^{14} 5d^4 6s^2$

Choose the correct answer from the options given below :

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

Options :

- 92090619465. 1

92090619466. 2
92090619467. 3
92090619468. 4

Question Number : 67 Question Id : 9209064924 Question Type : MCQ Option Shuffling : No 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) टंगस्टन	(I) $5f^{12} 7s^2$
(B) एक्टिनोइड	(II) ns^1
(C) क्षारीय धातु	(III) $2s^2 2p^5$
(D) सबसे अधिक विद्युतऋणी तत्व	(IV) $4f^{14} 5d^4 6s^2$

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

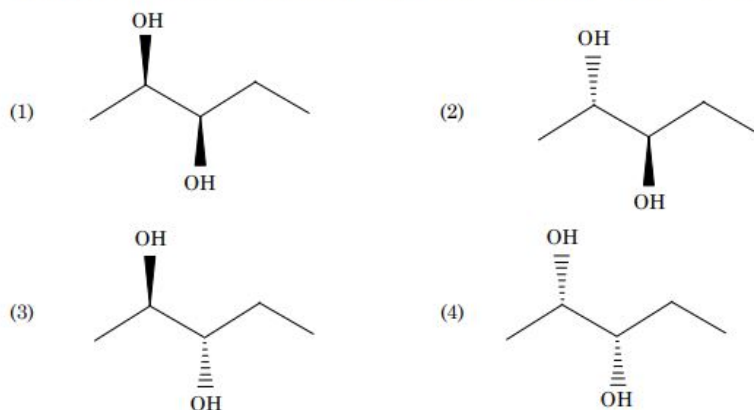
- (1) (A)-(III), (B)-(I), (C)-(IV), (D)-(II)
- (2) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)
- (3) (A)-(I), (B)-(IV), (C)-(III), (D)-(II)
- (4) (A)-(IV), (B)-(I), (C)-(III), (D)-(II)

Options :

92090619465. 1
92090619466. 2
92090619467. 3
92090619468. 4

Question Number : 68 Question Id : 9209064925 Question Type : MCQ Option Shuffling : No 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 compound represent the correct structure of (2R, 3S)-2,3-pentanediol?

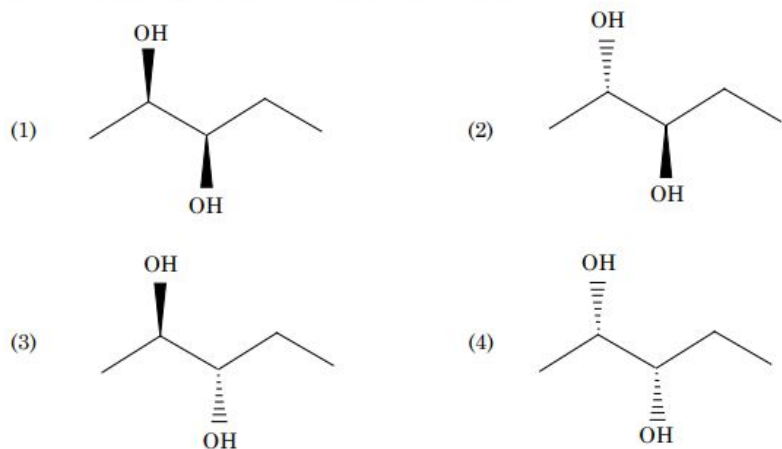


Options :

92090619469. 1
92090619470. 2
92090619471. 3
92090619472. 4

Question Number : 68 Question Id : 9209064925 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1

निम्न में से कौन सा (2R, 3S)-2,3- पेन्टेनडाईऑल की सही संरचना का निरूपण है।



Options :

92090619469. 1
92090619470. 2
92090619471. 3
92090619472. 4

Question Number : 69 Question Id : 9209064926 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Arachno and nido structure of Boranes have general formula respectively

- (1) $[B_n H_n]^{2-}$ and $B_n H_{2n+2}$ (2) $B_n H_{n+2}$ and $[B_n H_n]^{2-}$
(3) $B_n H_{n+6}$ and $B_n H_{n+4}$ (4) $B_n H_{n+4}$ and $B_n H_{n+6}$

Options :

92090619473. 1
92090619474. 2
92090619475. 3
92090619476. 4

Question Number : 69 Question Id : 9209064926 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

बोरैन्स की आरकेनो तथा नीडो संरचना का सामान्य सूत्र क्रमश है।

- (1) $[B_n H_n]^{2-}$ तथा $B_n H_{2n+2}$ (2) $B_n H_{n+2}$ तथा $[B_n H_n]^{2-}$
(3) $B_n H_{n+6}$ तथा $B_n H_{n+4}$ (4) $B_n H_{n+4}$ तथा $B_n H_{n+6}$

Options :

92090619473. 1
92090619474. 2
92090619475. 3
92090619476. 4

Question Number : 70 Question Id : 9209064927 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

In an experiment to determine the quantum yield of a photochemical reaction, the absorbing substance was exposed to 500 nm light from a 100 W source for 3000 s, with 80% of the incident light being absorbed. If 0.40 mol of the absorbing substance was decomposed, then the primary quantum yield is

- (1) 0.65 (2) 0.40
(3) 0.80 (4) 0.36

Options :

92090619477. 1
92090619478. 2
92090619479. 3
92090619480. 4

Question Number : 70 Question Id : 9209064927 Question Type : MCQ Option Shuffling : No 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 प्रकाश रासायनिक अभिक्रिया की क्वान्टम लब्धि का निर्धारण करने के प्रयोग में अवशोषी तत्व 3000 सेकण्ड के लिए 100 W के स्रोत से 500 nm के प्रकाश के सम्पर्क में था तथा, आपतित प्रकाश 80% अवशोषित हो गया। यदि अवशोषी तत्व का 0.40 मोल विघटित हो गया, तब प्राथमिक क्वान्टम लब्धि है:

- (1) 0.65 (2) 0.40
(3) 0.80 (4) 0.36

Options :

92090619477. 1
92090619478. 2
92090619479. 3
92090619480. 4

Question Number : 71 Question Id : 9209064928 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Phenylbenzoate can be prepared from phenol using which of the following name reaction?

- (1) Schotten Baumann reaction (2) Fries Rearrangement
(3) Claisen Rearrangement (4) Hauben-Hoesch reaction

Options :

92090619481. 1
92090619482. 2
92090619483. 3
92090619484. 4

Question Number : 71 Question Id : 9209064928 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

फेनिल बेन्जोएट, फीनॉल से कौन सी नाम अभिक्रिया का उपयोग करके तैयार कर सकते हैं?

- (1) शॉटन बुमान अभिक्रिया (2) फ्राइज पुर्नविन्यास
(3) क्लेज़न पुर्नविन्यास (4) होबेन हॉरच अभिक्रिया

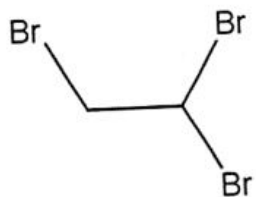
Options :

92090619481. 1
92090619482. 2
92090619483. 3
92090619484. 4

Question Number : 72 Question Id : 9209064929 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

What is splitting pattern of NMR signals in increasing order of δ in the following compound?



- (1) Doublet followed by triplet (2) Triplet followed by doublet
(3) Singlet followed by doublet (4) Triplet followed by singlet

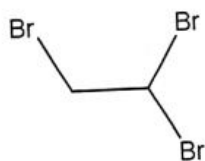
Options :

92090619485. 1
92090619486. 2
92090619487. 3
92090619488. 4

Question Number : 72 Question Id : 9209064929 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित यौगिक में δ के बढ़ते क्रम में NMR का विपाटन (स्प्लिटिंग पैटर्न) क्या होगा ?



- (1) डबलेट ट्रिपलेट (2) ट्रिपलेट डबलेट
(3) सिंगलेट डबलेट (4) ट्रिपलेट सिंगलेट

Options :

92090619485. 1
92090619486. 2
92090619487. 3
92090619488. 4

Question Number : 73 Question Id : 9209064930 Question Type : MCQ Option Shuffling : No 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 assumption was not considered during the derivation of Langmuir adsorption isotherm?

- (1) The layer of the gas adsorbed on the solid surface is one molecule thick
(2) The adsorbed layer is uniform
(3) There is no attraction between the adjacent molecules
(4) The attraction between the adsorbent molecule is extremely large

Options :

92090619489. 1
92090619490. 2
92090619491. 3
92090619492. 4

Question Number : 73 Question Id : 9209064930 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्न में से कौन सी कल्पना लैंगम्यूर अधिशोषण के अवकलन के समय सम्मिलित नहीं हुई?

- (1) टोस के पृष्ठ पर अधिशोषित गैस की सतह एक अणु मोटी होती है।
- (2) अधिशोषित सतह एक समान है।
- (3) निकटवर्ती अणुओं के बीच कोई आकर्षण नहीं होता है।
- (4) अधिशोषक अणुओं के बीच आकर्षण अत्यधिक बढ़ा है।

Options :

92090619489. 1
92090619490. 2
92090619491. 3
92090619492. 4

Question Number : 74 Question Id : 9209064931 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Consider the following pair of electrons :

1. $n = 3, l = 1, m_l = 1, m_s = +\frac{1}{2}$ and $n = 3, l = 2, m_l = 1, m_s = +\frac{1}{2}$
2. $n = 3, l = 2, m_l = -2, m_s = -\frac{1}{2}$ and $n = 3, l = 2, m_l = -1, m_s = -\frac{1}{2}$
3. $n = 3, l = 2, m_l = 2, m_s = +\frac{1}{2}$ and $n = 4, l = 2, m_l = 2, m_s = +\frac{1}{2}$

The pair of electrons present in degenerate orbitals is/are

- (1) Only 1
- (2) Only 2
- (3) Only 3
- (4) Only 2 and 3

Options :

92090619493. 1
92090619494. 2
92090619495. 3
92090619496. 4

Question Number : 74 Question Id : 9209064931 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित इलेक्ट्रानों के युग्मों पर विचार कीजिए।

1. $n = 3, l = 1, m_l = 1, m_s = +\frac{1}{2}$ and $n = 3, l = 2, m_l = 1, m_s = +\frac{1}{2}$
2. $n = 3, l = 2, m_l = -2, m_s = -\frac{1}{2}$ and $n = 3, l = 2, m_l = -1, m_s = -\frac{1}{2}$
3. $n = 3, l = 2, m_l = 2, m_s = +\frac{1}{2}$ and $n = 4, l = 2, m_l = 2, m_s = +\frac{1}{2}$

अपभ्रष्ट कक्षक में उपस्थित इलेक्ट्रान के युग्म है

- | | |
|------------|------------------|
| (1) केवल 1 | (2) केवल 2 |
| (3) केवल 3 | (4) केवल 2 तथा 3 |

Options :

92090619493. 1
92090619494. 2
92090619495. 3
92090619496. 4

Question Number : 75 Question Id : 9209064932 Question Type : MCQ Option Shuffling : No 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 experimental magnetic moment (3.4 BM) of a hydrated salt of Eu^{3+} at 300 K is significantly different from calculated value. The difference is due to (Given atomic number of Eu = 63)

- (1) Population of electrons at higher J level(s) via thermal excitation
- (2) Strong ligand field splitting of f-orbitals
- (3) Large spin-orbit coupling constant
- (4) Pairing of electrons in f-orbitals

Options :

92090619497. 1
92090619498. 2
92090619499. 3
92090619500. 4

Question Number : 75 Question Id : 9209064932 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

300 केल्विन पर Eu^{3+} के जलीय लवण का प्रायोगिक चुम्बकीय आघूर्ण (3.4 BM) परिकलित मान से सार्थक रूप से भिन्न है। यह भिन्नता किसके कारण है? (Eu की दी गयी परमाणु संख्या = 63)

- (1) तापीय उत्तेजन के द्वारा उच्च J स्तर(s) पर इलेक्ट्रानों की समष्टि (population)
- (2) F कक्षक की प्रबल लिगेण्ड क्षेत्र विपाटन
- (3) अधिक प्रचक्रण-कक्ष युग्मन स्थिरांक
- (4) F कक्षक के इलेक्ट्रानों का युगलन

Options :

92090619497. 1

92090619498. 2
92090619499. 3
92090619500. 4

Question Number : 76 Question Id : 9209064933 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1

Find out the degree of dissociation of HF in 1 M aqueous solution. The value of K for the ionic equilibrium $\text{HF} \rightleftharpoons \text{H}^+ + \text{F}^-$ is 7.2×10^{-4} .

- (1) 7.2×10^{-2} (2) 2.7×10^{-4}
(3) 2.7×10^{-2} (4) 7.2×10^{-4}

Options :

92090619501. 1
92090619502. 2
92090619503. 3
92090619504. 4

Question Number : 76 Question Id : 9209064933 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1

1 M जलीय विलयन में HF के विघटन की कोटि पता लगाइए। आयनिक साम्य

$\text{HF} \rightleftharpoons \text{H}^+ + \text{F}^-$ के लिए K का मान 7.2×10^{-4} है।

- (1) 7.2×10^{-2} (2) 2.7×10^{-4}
(3) 2.7×10^{-2} (4) 7.2×10^{-4}

Options :

92090619501. 1
92090619502. 2
92090619503. 3
92090619504. 4

Question Number : 77 Question Id : 9209064934 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1

Phenol derivatives can be prepared from corresponding chlorobenzene derivatives via nucleophilic substitution reaction only when it contains

- (1) Electron releasing groups (2) Electron withdrawing groups
(3) Electronically neutral groups (4) Reaction not possible

Options :

92090619505. 1
92090619506. 2
92090619507. 3
92090619508. 4

Question Number : 77 Question Id : 9209064934 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1

संगत नाभिक स्नेही प्रतिस्थापन अभिक्रिया द्वारा क्लोरोबेन्ज़िन व्युत्पन्न से फीनॉल के व्युत्पन्न तैयार कर सकते हैं जब यह रखता है

- (1) इलेक्ट्रॉन दाता समूह (2) इलेक्ट्रॉन अपनयन समूह
(3) इलेक्ट्रॉनीकृत उदासीन समूह (4) अभिक्रिया संभव नहीं है

Options :

92090619505. 1

92090619506. 2
92090619507. 3
92090619508. 4

**Question Number : 78 Question Id : 9209064935 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1**

Among the following mono nitrophenols which one is most acidic.

- (1) *o*-Nitrophenol (2) *p*-Nitrophenol
(3) *m*-Nitrophenol (4) All three isomers have same acidity

Options :

92090619509. 1
92090619510. 2
92090619511. 3
92090619512. 4

**Question Number : 78 Question Id : 9209064935 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1**

निम्नलिखित मोनो नाइट्रोफिनोल में कौन सा अधिक अम्लीय है।

- (1) *o*-नाइट्रोफिनोल (2) *p*-नाइट्रोफिनोल
(3) *m*-नाइट्रोफिनोल (4) सभी तीनों समावयवी समान अम्लीयता रखते हैं

Options :

92090619509. 1
92090619510. 2
92090619511. 3
92090619512. 4

**Question Number : 79 Question Id : 9209064936 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1**

What are the most common electronic transition(s) associated with carbonyl functional group?

- (A) $\sigma \rightarrow \pi$
(B) $\sigma \rightarrow n$
(C) $n \rightarrow \pi^*$
(D) $\pi \rightarrow \pi^*$
(1) (A) and (D) only (2) (B) and (C) only
(3) (C) and (D) only (4) (A) and (B) only

Options :

92090619513. 1
92090619514. 2
92090619515. 3
92090619516. 4

**Question Number : 79 Question Id : 9209064936 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1**

कार्बोनिल क्रियात्मक समूह से सम्बन्धित अति सामान्य इलेक्ट्रान संक्रमण क्या है ?

- (A) $\sigma \rightarrow \pi$
- (B) $\sigma \rightarrow n$
- (C) $n \rightarrow \pi^*$
- (D) $\pi \rightarrow \pi^*$

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

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

Options :

- 92090619513. 1
- 92090619514. 2
- 92090619515. 3
- 92090619516. 4

Question Number : 80 Question Id : 9209064937 Question Type : MCQ Option Shuffling : No 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 structure of a carborane, $C_2B_5H_7$ is

- (1) Seven vertex polyhedron, nido structure
- (2) Six vertex polyhedron, closo structure
- (3) Six vertex polyhedron, nido structure
- (4) Seven vertex polyhedron, closo structure

Options :

- 92090619517. 1
- 92090619518. 2
- 92090619519. 3
- 92090619520. 4

Question Number : 80 Question Id : 9209064937 Question Type : MCQ Option Shuffling : No 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 कार्बोरेन $C_2B_5H_7$ की संरचना है।

- (1) सात शीर्ष बहुफलक, नीडो संरचना
- (2) छः शीर्ष बहुफलक, क्लोजो संरचना
- (3) छः शीर्ष बहुफलक, नीडो संरचना
- (4) सात शीर्ष बहुफलक, क्लोजो संरचना

Options :

- 92090619517. 1
- 92090619518. 2
- 92090619519. 3
- 92090619520. 4

Question Number : 81 Question Id : 9209064938 Question Type : MCQ Option Shuffling : No 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 first order reflection from the (111) planes of a cubic crystal was observed at a glancing angle of 11.5° when X-rays of wavelength 151 pm were used. The length of the side of the crystal is (Given $\sin 11.5^\circ = 0.199$)

- (1) 657 pm (2) 786 pm
(3) 379 pm (4) 752 pm

Options :

92090619521. 1
92090619522. 2
92090619523. 3
92090619524. 4

Question Number : 81 Question Id : 9209064938 Question Type : MCQ Option Shuffling : No 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 घनीय क्रिस्टल के (111) समतल से प्रथम कोटि परावर्तन 11.5° तिर्यक कोण पर दिखता है जब 151 तरंगदैर्घ्य की X-किरण का उपयोग किया जाता है। क्रिस्टल की पार्श्व लम्बाई है (दिया गया $\sin 11.5^\circ = 0.199$)

- (1) 657 pm (2) 786 pm
(3) 379 pm (4) 752 pm

Options :

92090619521. 1
92090619522. 2
92090619523. 3
92090619524. 4

Question Number : 82 Question Id : 9209064939 Question Type : MCQ Option Shuffling : No 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 hydrolysis products of Al_4C_3 and Be_2C are

- (1) Propyne, Methane (2) Methane, Methane
(3) Propyne, Ethyne (4) Ethyne, Methane

Options :

92090619525. 1
92090619526. 2
92090619527. 3
92090619528. 4

Question Number : 82 Question Id : 9209064939 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Al_4C_3 तथा Be_2C के जल अपघटन से उत्पाद बनता है:

- (1) प्रोपाईन (2) मिथेन, मिथेन
(3) प्रोपाइन, इथाईन (4) इथाईन, मिथेन

Options :

92090619525. 1
92090619526. 2
92090619527. 3
92090619528. 4

Question Number : 83 Question Id : 9209064940 Question Type : MCQ Option Shuffling : No 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 Addition reaction between Borazine ($B_3N_3H_6$) and HCl will produce

- (1) N-chloro product $(BH)_6(NHCl)_3$
- (2) B-chloro product $(BHCl)_3(NH)_6$
- (3) Mixture of N- and B- chloro product
- (4) Only hydrogenated product $B_3N_3H_{12}$

Options :

92090619529. 1
92090619530. 2
92090619531. 3
92090619532. 4

Question Number : 83 Question Id : 9209064940 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

बोराजीन ($B_3N_3H_6$) तथा HCl के बीच योगज अभिक्रिया से बनेगा

- | | |
|--------------------------------------|--|
| (1) N-क्लोरो उत्पाद $(BH)_6(NHCl)_3$ | (2) B-क्लोरो उत्पाद- $(BHCl)_3(NH)_6$ |
| (3) N तथा B क्लोरो का मिश्रित उत्पाद | (4) केवल हाइड्रोजनकृत उत्पाद- $B_3N_3H_{12}$ |

Options :

92090619529. 1
92090619530. 2
92090619531. 3
92090619532. 4

Question Number : 84 Question Id : 9209064941 Question Type : MCQ Option Shuffling : No 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) : Halogenation of 2-methyl propane gives $(CH_3)_2CHCH_2X$ (Minor) and $(CH_3)_3C-X$ (Major) with chlorination giving a larger amount of minor product than bromination.

Reasons (R) : Tertiary free radicals are more stable than primary ones.

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

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

Options :

92090619533. 1
92090619534. 2
92090619535. 3
92090619536. 4

Question Number : 84 Question Id : 9209064941 Question Type : MCQ Option Shuffling : No 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 (Reasons (R)) के रूप में :

अभिकथन (A) : 2-मेथिल प्रोपेन का हैलोजनीकरण $(\text{CH}_3)_2\text{CHCH}_2\text{X}$ (निम्न) तथा $(\text{CH}_3)_3\text{C}-\text{X}$ (मुख्य) देता है। क्लोरीकरण, ब्रोमीनीकरण से अधिक मात्रा में निम्न उत्पाद देता है।

कारण (R) : तृतीयक मुक्त मूलक प्राथमिक से अधिक स्थाई 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 है, लेकिन (R) सही नहीं है
- (4) (A) सही नहीं है, लेकिन (R) सही है

Options :

92090619533. 1
92090619534. 2
92090619535. 3
92090619536. 4

Question Number : 85 Question Id : 9209064942 Question Type : MCQ Option Shuffling : No 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 values of van't Hoff factors for NaCl, KCl and K_2SO_4 , respectively are

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

Options :

92090619537. 1
92090619538. 2
92090619539. 3
92090619540. 4

Question Number : 85 Question Id : 9209064942 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

NaCl, KCl तथा K_2SO_4 के लिए वान्ट हॉफ गुणक क्रमशः है।

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

Options :

92090619537. 1
92090619538. 2
92090619539. 3
92090619540. 4

Question Number : 86 Question Id : 9209064943 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

When 3 moles of gas A is mixed with 1 mole of gas B at room temperature and 1 atm pressure, the entropy of mixing is

(Given $\log 3 = 0.4771$,

$\log 4 = 0.6020$)

- (1) -18.70 JK^{-1} (2) $+18.70 \text{ JK}^{-1}$
(3) $+4.65 \text{ JK}^{-1}$ (4) -4.65 JK^{-1}

Options :

92090619541. 1
92090619542. 2
92090619543. 3
92090619544. 4

Question Number : 86 Question Id : 9209064943 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

जब 3 मोल गैस A को 1 मोल गैस B के साथ कमरे के ताप तथा 1 atm दाब पर मिश्रित करते हैं, मिश्रण की एन्ट्रॉपी है:

(दिया गया $\log 3 = 0.4771$,

$\log 4 = 0.6020$)

- (1) -18.70 JK^{-1} (2) $+18.70 \text{ JK}^{-1}$
(3) $+4.65 \text{ JK}^{-1}$ (4) -4.65 JK^{-1}

Options :

92090619541. 1
92090619542. 2
92090619543. 3
92090619544. 4

Question Number : 87 Question Id : 9209064944 Question Type : MCQ Option Shuffling : No 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 (Reaction)	List II (Mettalo enzyme)
(A) $\text{R-H} + \text{O}_2 + 2\text{H}^+ + 2\text{e}^- \rightarrow \text{R-OH} + \text{H}_2\text{O}$	(I) Cytochrome P-450
(B) $2\text{H}_2\text{O}_2 \rightarrow 2\text{H}_2\text{O} + \text{O}_2$	(II) Catalase
(C) e ⁻ transfer protein	(III) Ferredoxin
(D) $\text{O}_2 + 4\text{H}^+ + 4\text{e}^- \rightarrow 2\text{H}_2\text{O}$	(IV) Cytochrome (oxidase)

Choose the correct answer from the options given below :

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

Options :

92090619545. 1
92090619546. 2
92090619547. 3
92090619548. 4

Question Number : 87 Question Id : 9209064944 Question Type : MCQ Option Shuffling : No 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
अभिक्रिया	मेटेलोएन्जाइम
(A) $R-H+O_2 + 2H^+ + 2e^- \rightarrow R-OH+H_2O$	(I) साइटोक्रोम P-450
(B) $2H_2O_2 \rightarrow 2H_2O + O_2$	(II) कैटेलेज
(C) e^- - स्थानान्तरण प्रोटीन	(III) फेरिडॉक्सिन
(D) $O_2 + 4H^+ + 4e^- \rightarrow 2H_2O$	(IV) साइटोक्रोम (ऑक्सीडेज)

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

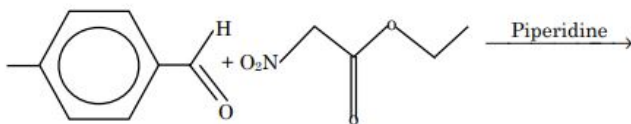
- (1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (2) (A)-(IV), (B)-(II), (C)-(III), (D)-(I)
- (3) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (4) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)

Options :

92090619545. 1
 92090619546. 2
 92090619547. 3
 92090619548. 4

Question Number : 88 Question Id : 9209064945 Question Type : MCQ Option Shuffling : No 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 the major product in the following reaction



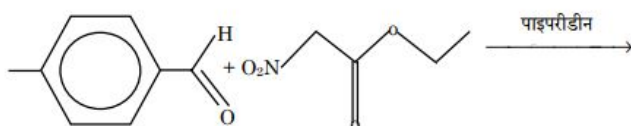
- (1) $(p-CH_3)C_6H_4CH_2COOH$
- (2) $(p-CH_3)C_6H_4CH_2COEt$
- (3) $(p-CH_3)C_6H_4COOH$
- (4) $(p-CH_3)C_6H_4CH=C(NO_2)(CO_2Et)$

Options :

92090619549. 1
 92090619550. 2
 92090619551. 3
 92090619552. 4

Question Number : 88 Question Id : 9209064945 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रिया में मुख्य उत्पाद को पहचानिए



- (1) $(p-CH_3)C_6H_4CH_2COOH$
- (2) $(p-CH_3)C_6H_4CH_2COEt$
- (3) $(p-CH_3)C_6H_4COOH$
- (4) $(p-CH_3)C_6H_4CH=C(NO_2)(CO_2Et)$

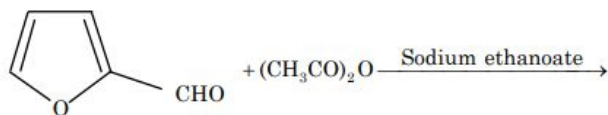
Options :

92090619549. 1
 92090619550. 2

92090619551. 3
92090619552. 4

Question Number : 89 Question Id : 9209064946 Question Type : MCQ Option Shuffling : No 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 the major product in the following reaction



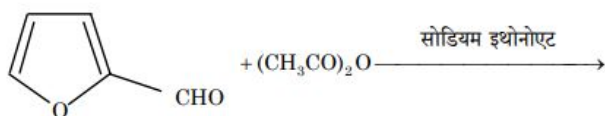
- (1) 2-(α -Furyl)-acrylic acid (2) 3-(α -Furyl)-acrylic acid
(3) 2-(β -Furyl)-acrylic acid (4) 3-(β -Furyl)-acrylic acid

Options :

92090619553. 1
92090619554. 2
92090619555. 3
92090619556. 4

Question Number : 89 Question Id : 9209064946 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रिया में मुख्य उत्पाद को पहचानिए



- (1) 2-(α -फ्यूरिल)-एक्रिलीक अम्ल (2) 3-(α -फ्यूरिल)-एक्रिलीक अम्ल
(3) 2-(β -फ्यूरिल)-एक्रिलीक अम्ल (4) 3-(β -फ्यूरिल)-एक्रिलीक अम्ल

Options :

92090619553. 1
92090619554. 2
92090619555. 3
92090619556. 4

Question Number : 90 Question Id : 9209064947 Question Type : MCQ Option Shuffling : No 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 state (n_1, n_2) for a particle in a rectangular box with sides of length $L_1 = L$ and $L_2 = 2L$ that is accidentally degenerate with the state $(4, 4)$ is

- (1) $n_1 = 2; n_2 = 8$ (2) $n_1 = 8; n_2 = 2$
(3) $n_1 = 4; n_2 = 6$ (4) $n_1 = 2; n_2 = 2$

Options :

92090619557. 1
92090619558. 2
92090619559. 3
92090619560. 4

Question Number : 90 Question Id : 9209064947 Question Type : MCQ Option Shuffling : No 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 कण के लिए (n_1, n_2) अवस्था क्या है, जो कि संयोग से (4, 4) अवस्था के साथ अपभ्रष्ट है। यह कण $L_1 = L$ तथा $L_2 = 2L$ लम्बाई के किनारे के आयताकार बॉक्स में है।

- (1) $n_1 = 2; n_2 = 8$ (2) $n_1 = 8; n_2 = 2$
(3) $n_1 = 4; n_2 = 6$ (4) $n_1 = 2; n_2 = 2$

Options :

92090619557. 1
92090619558. 2
92090619559. 3
92090619560. 4

Question Number : 91 Question Id : 9209064948 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

When chromite ore (A) is fused with sodium carbonate in excess of air and the product is dissolved in water, a yellow solution of compound (B) is obtained. On treating B with sulphuric acid, compound (C) can be crystallized from the solution. When compound (C) is treated with KCl, orange crystals of compound (D) crystallise out. Identify A and D.

- (1) $\text{PbCrO}_4, \text{K}_2\text{CrO}_4$ (2) $\text{PbCrO}_4, \text{K}_2\text{Cr}_2\text{O}_7$
(3) $\text{FeCr}_2\text{O}_4, \text{K}_2\text{CrO}_4$ (4) $\text{FeCr}_2\text{O}_4, \text{K}_2\text{Cr}_2\text{O}_7$

Options :

92090619561. 1
92090619562. 2
92090619563. 3
92090619564. 4

Question Number : 91 Question Id : 9209064948 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

जब क्रोमाइट अयस्क (A) वायु की अधिकता में सोडियम कार्बोनेट के साथ पिघलता है तथा उत्पाद जल में विलेय होता है। तब यौगिक (B) का पीला विलयन प्राप्त होता है। जब (B) की सल्फ्यूरिक अम्ल के साथ अभिक्रिया करते हैं तो विलयन में से यौगिक (C) के क्रिस्टल बना सकते हैं। जब यौगिक (C) को KCl के साथ अभिक्रिया करते हैं तो यौगिक (D) के नारंगी क्रिस्टल मिलते हैं। A तथा B को पहचानिए

- (1) $\text{PbCrO}_4, \text{K}_2\text{CrO}_4$ (2) $\text{PbCrO}_4, \text{K}_2\text{Cr}_2\text{O}_7$
(3) $\text{FeCr}_2\text{O}_4, \text{K}_2\text{CrO}_4$ (4) $\text{FeCr}_2\text{O}_4, \text{K}_2\text{Cr}_2\text{O}_7$

Options :

92090619561. 1
92090619562. 2
92090619563. 3
92090619564. 4

Question Number : 92 Question Id : 9209064949 Question Type : MCQ Option Shuffling : No 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 solution containing 2.44 g of a solute dissolved in 75 g of water boils at 100.413°C
Calculate the molar mass of the solute

K_b for water = $0.52 \text{ K kg mol}^{-1}$

- (1) 409.6 g mol^{-1} (2) 40.96 g mol^{-1}
(3) 4096 g mol^{-1} (4) 4.096 g mol^{-1}

Options :

92090619565. 1
92090619566. 2
92090619567. 3
92090619568. 4

Question Number : 92 Question Id : 9209064949 Question Type : MCQ Option Shuffling : No 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 विलयन में 2.44 g विलेय 75 g जल में घुलता है तथा यह विलयन 100.413°C ताप पर उबलता है। विलेय के मोलर द्रव्यमान की गणना कीजिए।

जल के लिए $K_b = 0.52 \text{ K kg mol}^{-1}$

- (1) 409.6 g mol⁻¹ (2) 40.96 g mol⁻¹
(3) 4096 g mol⁻¹ (4) 4.096 g mol⁻¹

Options :

92090619565. 1

92090619566. 2

92090619567. 3

92090619568. 4

Question Number : 93 Question Id : 9209064950 Question Type : MCQ Option Shuffling : No 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) : Terpenes are polyisoprenes with formulae $(C_5H_8)_n$. The value of n is used to determine the types in terpenes as mono, di, tri etc.

Reasons (R) : Terpenes are made up of the arrangement of 2-methyl-1,3-butadiene units in head to tail manner.

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

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

Options :

92090619569. 1

92090619570. 2

92090619571. 3

92090619572. 4

Question Number : 93 Question Id : 9209064950 Question Type : MCQ Option Shuffling : No 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 (Reasons (R)) के रूप में :

अभिकथन (A) : $(C_5H_8)_n$ सूत्र के साथ टरपीन बहुआइसोप्रीन है। टरपीन में n का मान मोनो, डाई, ट्राई आदि प्रकारों के निर्धारण में उपयोग होता है।

कारण (R) : टरपीन 2-मेथिल-1,3-ब्यूटाडाईन इकाई के शीर्ष से अन्तिम सिरे के विन्यास से बनता 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 :

92090619569. 1
92090619570. 2
92090619571. 3
92090619572. 4

Question Number : 94 Question Id : 9209064951 Question Type : MCQ Option Shuffling : No 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 relative order of stability of conformers of 1,3-dimethylcyclohexane is (equatorial - e, axial-a)

- | | |
|-------------------------------|-------------------------------|
| (1) e, e > e, a = a, e > a, a | (2) a, a > e, a = a, e > e, e |
| (3) e, e > a, a > e, a = a, e | (4) e, a = a, e > a, a > e, e |

Options :

92090619573. 1
92090619574. 2
92090619575. 3
92090619576. 4

Question Number : 94 Question Id : 9209064951 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

1,3-डाईमेथिल साइक्लोहेक्सेन के संरूपण की स्थायित्व का सम्बन्धित क्रम (इक्वेटोरियल-e एक्सियल a) है।

- | | |
|-------------------------------|-------------------------------|
| (1) e, e > e, a = a, e > a, a | (2) a, a > e, a = a, e > e, e |
| (3) e, e > a, a > e, a = a, e | (4) e, a = a, e > a, a > e, e |

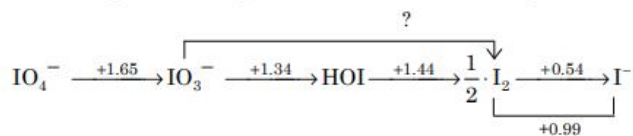
Options :

92090619573. 1
92090619574. 2
92090619575. 3
92090619576. 4

Question Number : 95 Question Id : 9209064952 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

Considering the following reactions and their reduction potentials in acidic medium



What will be the free energy change (ΔG) of the reaction. $\text{IO}_3^- \rightarrow \frac{1}{2} \text{I}_2$

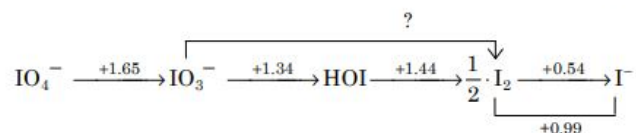
- (1) -3.57 F (2) -4.76 F
 (3) -5.39 F (4) -6.80 F

Options :

92090619577. 1
 92090619578. 2
 92090619579. 3
 92090619580. 4

Question Number : 95 Question Id : 9209064952 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रिया तथा उनके अम्लीय माध्यम में अपचयन विभव ध्यान में रखते हुए



$\text{IO}_3^- \rightarrow \frac{1}{2} \text{I}_2$ के लिए मुक्त ऊर्जा परिवर्तन क्या होगा ?

- (1) -3.57 F (2) -4.76 F
 (3) -5.39 F (4) -6.80 F

Options :

92090619577. 1
 92090619578. 2
 92090619579. 3
 92090619580. 4

Question Number : 96 Question Id : 9209064953 Question Type : MCQ Option Shuffling : No 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 : N_2 is isoelectronic with CO

Statement II : N_2 is significantly poorer σ - donor than CO.

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 and Statement II is false
 (4) Statement I is false and Statement II is true

Options :

92090619581. 1
 92090619582. 2
 92090619583. 3

Question Number : 96 Question Id : 9209064953 Question Type : MCQ Option Shuffling : No 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 : N_2 , CO के समइलेक्ट्रानी है।

कथन II : N_2 , CO से अल्प σ -दाता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त 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

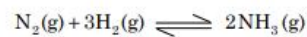
Options :

92090619581. 1
92090619582. 2
92090619583. 3
92090619584. 4

Question Number : 97 Question Id : 9209064954 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

For the following reaction :



The free energy changes at 25°C and 35°C are -33.089 and -28.018 kJ respectively. The heat of the reaction is

- | | |
|-----------------|----------------|
| (1) + 184.20 kJ | (2) -184.20 kJ |
| (3) - 33.089 kJ | (4) +33.089 kJ |

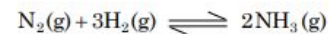
Options :

92090619585. 1
92090619586. 2
92090619587. 3
92090619588. 4

Question Number : 97 Question Id : 9209064954 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Wrong Marks : 1

निम्नलिखित अभिक्रिया के लिए



25°C तथा 35°C पर मुक्त ऊर्जा परिवर्तन क्रमशः -33.089 तथा -28.018 kJ है। अभिक्रिया की ऊष्मा है।

- | | |
|-----------------|----------------|
| (1) + 184.20 kJ | (2) -184.20 kJ |
| (3) - 33.089 kJ | (4) +33.089 kJ |

Options :

92090619585. 1
92090619586. 2
92090619587. 3
92090619588. 4

Question Number : 98 Question Id : 9209064955 Question Type : MCQ Option Shuffling : No 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 monochromatic radiation is incident on a solution of 0.05 molar concentration of an absorbing substance. The intensity of the radiation is reduced to one fourth of the initial value after passing through 10 cm length of the solution. Calculate the molar extinction coefficient of the substance.

- (1) $12.04 \text{ dm}^3 \text{ mol}^{-1} \text{ cm}^{-1}$ (2) $1.204 \text{ dm}^3 \text{ mol}^{-1} \text{ cm}^{-1}$
(3) $120.4 \text{ dm}^3 \text{ mol}^{-1} \text{ cm}^{-1}$ (4) $120.4 \text{ cm}^{-2} \text{ mol}^{-1}$

Options :

92090619589. 1
92090619590. 2
92090619591. 3
92090619592. 4

Question Number : 98 Question Id : 9209064955 Question Type : MCQ Option Shuffling : No 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 एकवर्णी विकिरण एक अवशोषित पदार्थ के 0.05 मोलर सान्द्रता के विलयन पर गिरती है। विकिरण की तीव्रता विलयन के 10 cm लम्बाई तक प्रवाह के बाद प्रारम्भिक मान से एक चौथाई कम हो जाती है। पदार्थ का मोलर विलोपन गुणांक की गणना कीजिए।

- (1) $12.04 \text{ dm}^3 \text{ mol}^{-1} \text{ cm}^{-1}$ (2) $1.204 \text{ dm}^3 \text{ mol}^{-1} \text{ cm}^{-1}$
(3) $120.4 \text{ dm}^3 \text{ mol}^{-1} \text{ cm}^{-1}$ (4) $120.4 \text{ cm}^{-2} \text{ mol}^{-1}$

Options :

92090619589. 1
92090619590. 2
92090619591. 3
92090619592. 4

Question Number : 99 Question Id : 9209064956 Question Type : MCQ Option Shuffling : No 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 sample was excited by 4358 Å line of mercury. A Raman line was observed at 4447 Å. Calculate Raman Shift in cm^{-1} .

- (1) 435.8 cm^{-1} (2) 4600 cm^{-1}
(3) 46 cm^{-1} (4) 460 cm^{-1}

Options :

92090619593. 1
92090619594. 2
92090619595. 3
92090619596. 4

Question Number : 99 Question Id : 9209064956 Question Type : MCQ Option Shuffling : No 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 नमूना मर्क्युरी के 4358 Å लाइन (रेखा) द्वारा उत्तेजित किए जाने पर एक रमन लाइन 4447 Å पर प्राप्त होती है। सेमी^{-1} में रमन शिफ्ट की गणना कीजिए।

- (1) 435.8 सेमी^{-1} (2) 4600 सेमी^{-1}
(3) 46 सेमी^{-1} (4) 460 सेमी^{-1}

Options :

92090619593. 1
92090619594. 2
92090619595. 3

92090619596. 4

Question Number : 100 Question Id : 9209064957 Question Type : MCQ Option Shuffling : No 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 initial rate of a reaction in which the substrate, S, undergoes a reaction in the presence of catalyst C, was found to be equal to $v_0 = \frac{k_2[S]_0[C]_0}{[S]_0 + Km}$. The probable condition in which the reaction took place was

- (1) $[C]_0 \ll [S]_0$ (2) $[C]_0 \gg [S]_0$
(3) $[C]_0 = [S]_0$ (4) Insufficient information

Options :

92090619597. 1

92090619598. 2

92090619599. 3

92090619600. 4

Question Number : 100 Question Id : 9209064957 Question Type : MCQ Option Shuffling : No 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 पदार्थ S उत्प्रेरक C की उपस्थिति में अभिक्रिया देता है। अभिक्रिया की प्रारम्भिक दर $v_0 = \frac{k_2[S]_0[C]_0}{[S]_0 + Km}$ के समान पाई गई। संभावित स्थिति जिसमें अभिक्रिया हुई है, वह है:

- (1) $[C]_0 \ll [S]_0$ (2) $[C]_0 \gg [S]_0$
(3) $[C]_0 = [S]_0$ (4) अधूरी सूचना

Options :

92090619597. 1

92090619598. 2

92090619599. 3

92090619600. 4