



JEE (MAIN) 2025

MEMORY BASED QUESTIONS & TEXT SOLUTION

SHIFT-1

DATE & DAY: 02nd April 2025 & Wednesday

PAPER-1

Duration: 3 Hrs.

Time: 09:00 – 12:00 IST

SUBJECT: CHEMISTRY

Selections in JEE (Advanced)/
IIT-JEE Since 2002

52395

Selections in JEE (Main)/
AIEEE Since 2009

257576

Selections in NEET (UG)/
AIPMT/AIIMS Since 2012

22494

Admission Open for 2025-26

Target: JEE (Advanced) | JEE (Main) | NEET (UG) | PCCP (Class V to X)

100% Scholarship on the basis of Class 10th & 12th
& JEE (Main) 2025 %ile/ AIR

 **REGISTERED & CORPORATE OFFICE (CIN: U80302RJ2007PLC024029):**

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TARGET: JEE (Adv.) 2024



AIR
31

JEE (Adv.) 2024

ISHAAN GUPTA

SCHOLARSHIP UPTO **100%**

on the basis of Class 10th & 12th &
JEE (Main) 2025 %ile/ AIR

VISHESH COURSE

For 12th Passed Students

Course Features:

- ▶ Course Duration: **42 Weeks**
- ▶ Total No. of Lectures: **630** (P: 210 | C: 210 | M: 210)
- ▶ Duration of One Lecture: **1.5 Hrs.** (90 Minutes)
- ▶ Classroom Teaching Hours.: **945 Hrs.**
- ▶ Testing Duration: **51 Hrs.**
- ▶ Total Academic Hours.: **996 Hrs.**

*Tentative



CLASS STARTS

7th April 2025

TARGET: JEE (Main) 2026

ABHYAAS COURSE

For 12th Passed Students

Course Features:

- ▶ Course Duration: **39 Weeks**
- ▶ Total No. of Lectures: **577** (P: 192 | C: 193 | M: 192)
- ▶ Duration of One Lecture: **1.5 Hrs.** (90 Minutes)
- ▶ Classroom Teaching Hours.: **865 Hrs.**
- ▶ Testing Duration: **36 Hrs.**
- ▶ Total Academic Hours.: **901 Hrs.**

*Tentative

AIR
102

JEE (Main) 2024

RITAM BANERJEE



SCHOLARSHIP UPTO **100%**

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JEE (Main) 2025 %ile/ AIR



CLASS STARTS

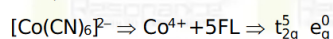
7th April 2025

PART : CHEMISTRY

1. Among Cr, Mn, Co & Fe which exists as $[M(CN)_6]^{2-}$. The metal with maximum $E^0(M^{3+}/M^{2+})$ has n electron in eg. orbitals. Find n .

Ans. (0)

Sol. $E^0_{M^{3+}/M^{2+}}$ is max. for Co

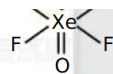


Number of e^- in eg orbital = 0

2. Find shape of Ax_4y , $x, y \rightarrow 1^{st}$ & 2^{nd} most E.N. A react monoatomic element of p-block with lowest I.E..

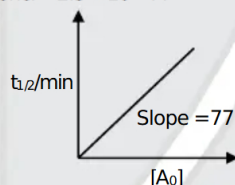
Sol. $A \rightarrow Xe$; $X \rightarrow F$; $Y \rightarrow O$





Shape – Square pyramidal.

3. After 10 min conc. of $[A] = x \times 10^{-2}$
Initial conc. $= 2.5 \times 10^{-2} \text{ M}$



Ans. (18)

Sol. For Zero order reaction $\frac{1}{2k} = 77 \therefore k = 0.0065$

$$C_t = C_0 - kt$$

$$x \times 10^{-2} = 2.5 \times 10^{-2} - 0.0065 \times 10$$

$$\therefore x = 18.5$$

4. **Statement-I** : Al has greater covalent radius than Ga.

Statement-II : Al has greater ionic radius than Ga.

(1) Both statement I and statement II are false

(2) Both Statement I and statement II are true

(3) Statement I is true but statement II is false

(4) Statement I is false but statement II is true

Ans. (3)

Sol. **Statement-I** : True

Statement-II : False

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| JEE(Main) 2025 | DATE : 02-04-2025 (SHIFT-1) | PAPER-1 | MEMORY BASED | CHEMISTRY

5. $P_s = 500$ $n_A = 1$ mole

$$P_A^0 = 200 \quad n_B = 3 \text{ mole}$$

$$P_B^0 = ?$$

Find which component will be less volatile?

Sol. $P_s = P_A^0 X_A + P_B^0 X_B$

$$500 = 200 \times \frac{1}{4} + P_B^0 \times \frac{3}{4}$$

$$2000 = 200 + 3P_B^0$$

$$P_B^0 = 600 \text{ mm mg.}$$

So, A will be less volatile.

6. $\text{CaCO}_3 + 2\text{HCl} \longrightarrow \text{CaCl}_2 + \text{CO}_2 + \text{H}_2\text{O}$

mass of $\text{CaCl}_2 = ?$

100 g of CaCO_3 and 250 ml of 0.76 M of HCl are mixed.

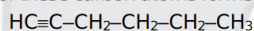
Sol. $\text{CaCO}_3 + 2\text{HCl} \longrightarrow \text{CaCl}_2 + \text{CO}_2 + \text{H}_2\text{O}$

$$n = 1 \quad 0.19 \text{ (LR)}$$

$$n_r = 0.095$$

$$\therefore m_{\text{CaCl}_2} \text{ produced} = 0.095 \times 111 = 10.545 \text{ g}$$

7. Which of these carbon atoms forms least and most stable free radical respectively



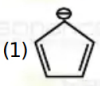
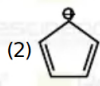
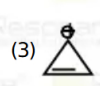
1 2 3 4

(1) 1, 2

(2) 2, 3

(3) 2, 1

(4) 1, 3

8. Which of the following gives fastest hydrolysis:
 (1) $\text{CH}_3\text{-C(=O)-Cl}$ (2) $\text{CH}_3\text{-C(=O)-NH}_2$ (3) $\text{CH}_3\text{-C(=O)-O-CH}_3$ (4) $\text{CH}_3\text{-C(=O)-O-C(=O)-CH}_3$
9. Identify optically inactive amino acid.
 Alanine
 Valine
 Glycine
 Aspartic acid
10. Which is correct order of basic strength in aq. medium
 (1) CH_3NH_2 (2) $(\text{CH}_3)_2\text{NH}$ (3) $(\text{CH}_3)_3\text{N}$ (4) $\text{NH}_2\text{-NH}_2$
11. Which is anti aromatic molecule
 (1)  (2)  (3)  (4) 

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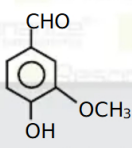
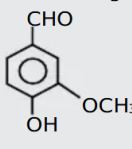
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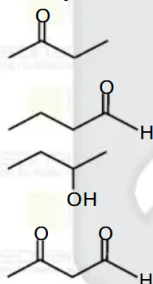
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| JEE(Main) 2025 | DATE : 02-04-2025 (SHIFT-1) | PAPER-1 | MEMORY BASED | CHEMISTRY

12. Correct statement is
 (1) All naturally occurring amino acids are optically active
 (2) All natural amino acids except glycine has 1 chiral centre
 (3) All natural amino acids except proline have primary amine functional group
 (4) All natural occurring amino acids are neutral amines acids.
13. **Statement-I :**  reacts with conc. NaOH to give product that gives Tollens reaction positive.
Statement-II :  reacts with NaOH to give Aldol reaction.
 (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

14. But-2-en + $\text{Br}_2 \xrightarrow{\text{CCl}_4}$ (A)
 (A) $\xrightarrow[\text{excess}]{\text{NaNH}_2}$ (B) $\xrightarrow{\text{HgSO}_4, \text{H}_2\text{SO}_4}$ (C)
 Identify (C).





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