

CAREERS 360

PREPARATION **Series**

JEE Main 2025

Memory Based

Questions and Analysis

4th April (Evening Shift)

Content

1. Few Memory-Based Questions
2. Key Details About the Exam
3. Overall Paper Analysis
4. Physics Paper Analysis
5. Mathematics Paper Analysis
6. Chemistry Paper Analysis
7. Tentative Percentile vs. Score Comparison

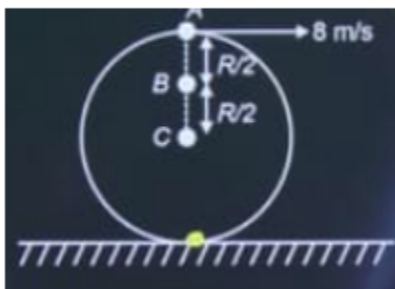
Careers360

Few Memory-Based Questions

Physics

Q 1)

A disc is performing pure rolling if speed of top point is 8 m/s. Find speed of point B.



Q 2)

A particle of mass m is at a distance $3R$ from the centre of Earth. Find the minimum kinetic energy of a particle to leave Earth's field (R : radius of earth)

Q 3)

In a YDSE setup, the slits are separated by 1.5 mm and the distance between slits and screen is 2 m. On using light of wavelength 400 nm, it is observed that 20 maxima of double slit experiment lie inside the central maxima of single slit diffraction. The width of each slit is μm .

Chemistry

Q.1 Maximum IE and minimum IE of group 13 elements

- 1 B, In
- 2 B, Tl
- 3 Al, In
- 4 Al, Tl

Q.2 Total number of electrons in chromium ($Z = 24$) for which the value of azimuthal quantum number (l) is 1 and 2

Q.3 X is a peptide which is hydrolysed to 2 amino acids y and z. y when react with HNO_2 gives lactic acid. z when heated gives cyclic structure as below:
y and z respectively are

1 Alanine and Lysine

2 Alanine and Glycine

3 Glycine and Alanine

4 Valine and Glycine

Q.4 0.01M HX ($K = 4 \times 10^{-10}$) is diluted till the solution has $\text{pH} = 6$. If the new concentration is $x \times 10^7 \text{ M}$, then find x.

Q.5 Statement-1:- Alcohol is prepared from alkyl halide in presence of aq. KOH by elimination

Statement-2:- Alkenes are prepared from alkyl halide with aq. KOH by β -elimination

1. Statement -1 and Statement -2 are correct
2. Statement -1 and Statement - 2 are incorrect
3. Statement -1 is true and Statement -2 is false
4. Statement —1 is false and Statement - 2 is true

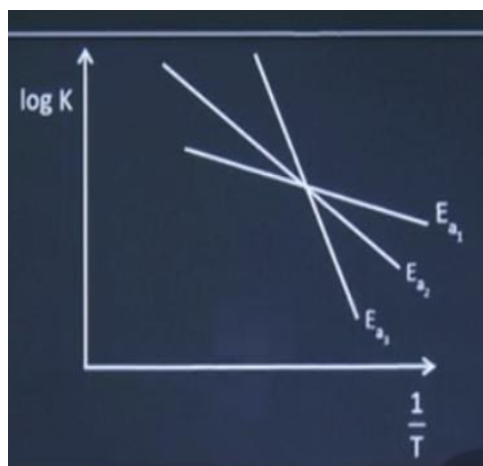
Q.6 Consider the following graph between Rate Constant (K) and $\frac{1}{T}$.

1 $E_{a_1} > E_{a_2} > E_{a_3}$

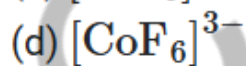
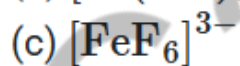
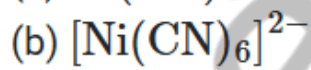
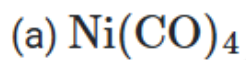
2 $E_{a_3} > E_{a_2} > E_{a_4}$

3 $E_{a_3} > E_{a_1} > E_{a_2}$

4 $E_{a_1} > E_{a_3} > E_{a_2}$



Q.7 Consider the following complex ions



which of the following order is correct for their unpaired electrons

Maths

Q 1. $\cot^{-1} \left(\frac{7}{4} \right) + \cot^{-1} \left(\frac{19}{4} \right) + \cot^{-1} \left(\frac{39}{4} \right) + \dots \infty$

1) $\cot^{-1}(2)$

2) $\cot^{-1} \left(\frac{1}{2} \right)$

3) $\cot^{-1} \left(\frac{1}{3} \right)$

4) $\cot^{-1}(3)$

Q 2. $\sum_{k=1}^n \left(\alpha^k + \frac{1}{\alpha^k} \right)^2 = 20$, α is one of the root of $x^2 + x + 1 = 0$ then $n = ?$

Q 3. Let $L_1 : \frac{x-1}{3} = \frac{y}{4} = \frac{z}{5}$ and $L_2 : \frac{x-p}{2} = \frac{y}{3} = \frac{z}{4}$. If the shortest distance between L_1 and L_2 is $\frac{1}{\sqrt{6}}$. Then possible value of p is

1) 3

2) 2

3) 5

4) 7

Q 4. If $\int \frac{(\sqrt{1+x^2}+x)^{10}}{(\sqrt{1+x^2}-x)^2} dx = \frac{1}{m} \left[(\sqrt{1+x^2}+x)^n (n\sqrt{1+x^2}-x) \right] + c$, where c is the constant of integration and $m, n \in N$ then $m + n$ is ____

Q 5. Let the mean & variance of observation 2, 3, 3, 4, 5, 7, a , b is 4 and 2, then mean deviation about mode of the observation is ____

Important Details about the Exam

The National Testing Agency (NTA) is conducting the **Joint Entrance Examination (JEE) Main 2025 – Session 2** from **April 2 to April 9, 2025**. The **April 4 Evening Shift exam** was successfully held **today** from **3:00 PM to 6:00 PM** across various exam centres in India and abroad. Here are the other important exam details provided to you.

Particulars	Details
Mode of exam	Online (Computer-based test)
JEE Main exam duration	180 minutes (3 hours)
Types of questions	MCQs and Numerical value questions
Official website of JEE Main	https://jeemain.nta.nic.in/
JEE Main 2025 Marking Scheme	Correct Answer - Four marks (+4) Incorrect Answer- Minus one mark (-1) for MCQs, Zero (0) for Numerical value questions.

Subject-wise distribution of Questions and Marks:-

Subject	Section A (MCQs)	Section B Numerical value questions	Marks
Mathematics	20*	5*	100
Physics	20*	5*	100
Chemistry	20*	5*	100
Total	75		300

*Each subject will consist of a total of 25 questions, divided into two sections. Section A will have 20 Multiple-Choice Questions (MCQs), and Section B will contain 5 compulsory questions whose answers must be filled in as a numerical value. There will be negative markings for Section A (MCQs) but not for Section B (Numerical Value Questions). Answers in Section B should be rounded off to the nearest integer.

This analysis is based on memory-based information provided by students who attended the exam. Real accurate analysis may vary and will be provided when the official question paper is released by the NTA.

Overall Paper Analysis

- The JEE Main 2025 April 4th evening shift exam was of overall moderate difficulty.
- The JEE Main 2025 4th April evening shift paper was moderate compared to the January 2025 session.
- The Mathematics section was somewhat tricky and lengthy, while Physics and Chemistry were manageable. However, Chemistry was slightly more challenging compared to Physics.
- The overall paper level was easy compared to the last year of JEE Main.
- **Subject-wise difficulty (from highest to lowest):**
 - ♦ **Maths > chemistry > physics**
- The questions from Classes 11 and 12 were almost equally distributed.
- In today's morning shift, 1–2 questions were out of the syllabus, but there were none in the evening shift.

Questions asked from below given important topics

Physics:

- 2 questions from Modern Physics
- 2 questions from Rotation
- 2 questions from Current electricity (equivalent resistance)
- 1 question from Ray Optics (Mirror)
- 1 question from Capacitor (equivalent)
- 1 question from Electrostatics
- 1 question from Friction Force
- 1 question from Electrostatics

Maths:

- 5 questions from the conic section
- 1 question from the permutation and combination
- 2 questions from the differential equation
- 2 questions from Vector 3D
- 1 question from the binomial theorem
- 1 question from the inverse trigonometric function
- 1 question from the sequence and series
- 1 - 2 questions from quadratic equation

Chemistry:

- 1-2 questions from Chemical bonding
- 1 question from biomolecules
- 1 question from ionic equilibrium
- 3 questions from periodic

- 1 question from the structure of atom

Physics Analysis

- The overall difficulty level of the Physics section was "easy to moderate".
- The Physics section was relatively "easy" compared to Mathematics and Chemistry.
- The 4th April evening shift Physics paper was easy compared to the 4th April morning shift and 3rd April both shift.
- The 4th April evening shift Physics paper was easy compared to Session 1, 2025.
- The physics paper was easy in terms of math and chemistry.

Questions were asked about the following Topics:

- 2 questions from Modern Physics
- 2 questions from Rotation
- 2 questions from Current electricity (equivalent resistance)
- 1 question from Ray Optics (Mirror)
- 1 question from Capacitor (equivalent)
- 1 question from Electrostatics
- 1 question from Friction Force
- 1 question from Electrostatics
- 1 question from Unit and Dimension

This analysis is based on memory-based information provided by students who attended the exam. Real accurate analysis may vary and will be provided when the official question paper is released by the NTA.

Maths Analysis

- The overall difficulty level of the Mathematics section was difficult.
- The Mathematics section was relatively difficult compared to the Chemistry and Physics section.
- Overall the 4th April Shift 2 Mathematics paper was lengthy and difficult as compared to the 2nd and 3rd April shifts.
- The mathematics section was easy as compared to the JEE Main 2025 January Session.
- The mathematics section was of a similar difficulty level as JEE Main 2024.
- Overall, the mathematics section was lengthy and time-consuming.

Questions asked from below given important topics:

- 5 questions from the conic section
- 1 question from the permutation and combination
- 2 questions from the differential equation
- 2 questions from Vector 3D
- 1 question from the binomial theorem
- 1 question from the inverse trigonometric function
- 1 question from the sequence and series
- 1 - 2 questions from quadratic equation

This analysis is based on memory-based information provided by students who attended the exam. Real accurate analysis may vary and will be provided when the official question paper is released by the NTA.

Chemistry Analysis

- The Chemistry Section was moderate as compared to physics and easy compared to maths
- Chemistry is easy compared to 2 April and 3 April
- Chemistry is slightly tough compared to the 2025 January shift
- Chemistry was difficult as compared to the 2024 JEE Mains
- Most of the questions are statement-based.
- Organic questions are equation-base
- Overall weightage of chemistry is Physical>organic>inorganic

Questions were asked about the following Topics:

- 1-2 questions from Chemical bonding
- 1 question from biomolecules
- 1 question from ionic equilibrium
- 3 questions from periodic
- 1 question from the structure of atom

This analysis is based on memory-based information provided by students who attended the exam. Real accurate analysis may vary and will be provided when the official question paper is released by the NTA.

Tentative Percentile Vs Score

Since the paper was relatively “**Moderate**”, the higher percentile will be for a little lesser marks than that of the easy difficulty level papers.


Here is the tentative percentile vs score obtained for the exam.

Overall Percentile	JEE Main scores Difficulty level -Moderate
99.5	175-185
99.1	160-173
98.5	150-160

 **Predict Your JEE Main 2025 Rank & Secure Your Dream College – Instantly!** 

Get accurate insights with our expert tools:

 [JEE Main Rank Predictor](#) – Estimate your rank based on expected marks.

 [JEE Main College Predictor](#) – Explore top colleges you can get into with your predicted rank.

 Don't wait — plan your next move with confidence!


Secure Your Spot for JEE Main Offline Counseling!

Get expert guidance after the exam—reserve it now! →

<https://tinyurl.com/yc27av48>


BENEFITS

Why you should attend the counselling session




1:1 counselling Session with Experts

Personalized guidance from experienced counselors to help students make informed decisions about their college selection.




College/Course Shortlisting

Get a curated list of colleges and specialisation based on exam performance, preferred location and budget.



FREE Rank/College Predictor

Use AI-powered tools to predict your potential college options based on entrance exam scores and past trends. Previous year round wise cut offs



Scholarship Opportunities

Discover various scholarships, financial aid options, and fee waivers to make higher education more affordable.

These are tentative percentiles from the memory-based information provided by students who attended the exam. Actual percentiles may vary based on the all shifts exam paper and their difficulty level.