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JEE Main

Previous-Year-Pattern Practice Paper

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Section A — Physics

Q1.

Section B — Chemistry

Q6. The number of moles of KMnO_4 required to oxidise one mole of Fe^{2+} in acidic medium is:

- (A) 1
- (B) $1/5$
- (C) 2
- (D) 5

Q7. Which of the following has the maximum lattice energy?

- (A) NaCl
- (B) MgO
- (C) KCl
- (D) CaCl_2

Q8. The IUPAC name of $\text{CH}_3\text{-CO-CH}_3$ is:

- (A) Propanal
- (B) Propanone
- (C) Propanol
- (D) Propanoic acid

Q9. Which of the following is a Lewis acid?

- (A) NH_3
- (B) BF_3
- (C) H_2O
- (D) OH^-

Q10. The hybridisation of sulphur in SF_6 is:

- (A) sp^3
- (B) sp^3d
- (C) sp^3d^2
- (D) sp^2

Section C — Mathematics

Q11. The number of ways to arrange the letters of the word 'ENGINE' is:

- (A) 720
- (B) 360
- (C) 120
- (D) 180

Q12. If the roots of $x^2 - 6x + k = 0$ are equal, the value of k is:

- (A) 6
- (B) 9
- (C) 3
- (D) 12

Q13. The derivative of $\ln(x^2)$ with respect to x is:

- (A) $1/x$
- (B) $2/x$
- (C) $2x$
- (D) $x/2$

Q14. The probability of getting an even number on a single throw of a fair die is:

- (A) $1/6$
- (B) $1/3$
- (C) $1/2$
- (D) $2/3$

Q15. The sum to infinity of the geometric series $1 + 1/2 + 1/4 + \dots$ is:

- (A) 1
- (B) 1.5
- (C) 2
- (D) Infinity

Answer Key

Q.No	Answer	Q.No	Answer	Q.No	Answer
1	B	2	C	3	D
4	C	5	A	6	D
7	B	8	B	9	B
10	C	11	A	12	B
13	B	14	C	15	C

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