

MHT CET 2026 Mathematics Memory Based Question Paper PDF

Chemistry

- Which of the following compound is not in gaseous phase at 25°C?
 - (1) ClF
 - (2) BrF₃
 - (3) IF₃
 - (4) ClF₃
- A solution is prepared by dissolving 2 gram of non-volatile solute in 500 mL solution at 27°C. The osmotic pressure of the solution is 0.82 atm. The molar mass of the solute is:
 - (1) 100 g mol⁻¹
 - (2) 120 g mol⁻¹
 - (3) 150 g mol⁻¹
 - (4) 180 g mol⁻¹
- What is the oxidation state of sulfur in Marshall's acid, H₂S₂O₈?
 - (1) +4
 - (2) +5
 - (3) +6
 - (4) +7
- What is formed when an alkyl cyanide reacts with sodium in ether?
 - (1) Primary amine
 - (2) Secondary amine
 - (3) Alkene
 - (4) Alcohol
- Which of the following is not amphoteric in nature?
 - (1) NH₃
 - (2) HCl
 - (3) H₂O
 - (4) Cr₂O₃
- The rate of reaction $A \rightarrow P$ is $1.25 \times 10^{-2} \text{ mol dm}^{-3} \text{ s}^{-1}$ when $[A] = 0.5 \text{ M}$. Calculate the rate constant if the reaction is second order in A.
 - (1) 0.05
 - (2) 0.04

- (3) 0.03
(5) 0.01
7. Identify the unit of rate constant for a first-order reaction.
- (1) $\text{mol dm}^{-3} \text{s}^{-1}$
(2) s^{-1}
(3) $\text{mol}^{-1} \text{dm}^3 \text{s}^{-1}$
(4) mol dm^{-3}
8. The magnetic moment of Cr^{3+} ion is 3.87 BM. The number of unpaired electrons present is:
- (1) 1
(2) 2
(3) 3
(4) 4
9. Oil of wintergreen is chemically known as:
- (1) Methyl acetate
(2) Methyl salicylate
(3) Ethyl salicylate
(4) Salicylic acid
10. Which of the following does not belong to Group 16 elements?
- (1) Oxygen
(2) Sulfur
(3) Selenium
(4) Chlorine