MHT CET 2026 May 18 Shift 2

Question Paper (Memory-Based)

Conducted by Maharashtra State CET Cell

General Instructions

(i) **Duration:** The total duration of the examination is 3 hours (180 minutes).

(ii) **Total Marks:** The complete paper carries a maximum of 200 marks.

(iii) **Structure:** The paper has 3 Sections:

- **Section A:** 50 Multiple Choice Questions (Physics)
- **Section B:** 50 Multiple Choice Questions (Chemistry)
- **Section C:** 50 Multiple Choice Questions (Mathematics)

(iv) **Compulsory Questions:** All 150 questions are compulsory.

(v) Each question has four options. Only **one** option is correct.

(vi) **Right Answer:** +1 marks for Physics and Chemistry Questions. +2 marks for Mathematics Questions

(vii) **Incorrect Answer:** (No Negative marking).

(viii) **Unanswered/Marked for Review:** 0 marks.

1.

If z be a complex number such that $|z| + z = 2 + i$, then find the value of $|z|$.

(1) $\frac{1}{2}$

(2) $\frac{3}{4}$

(3) $\frac{5}{4}$

(4) 1

2.

If $\vec{a} = 2\hat{i} + \hat{j} + 3\hat{k}$ and $\vec{b} = p\hat{i} + 2\hat{j} + 2\hat{k}$ are perpendicular to each other, find the value of p.

(1) 4

(2) -4

(3) 2

(4) -2

3.

The solubility product of AgBr is 4.9×10^{-13} at a certain temperature. Calculate the molar solubility of AgBr.

(1) 4×10^{-6} mol dm^{-3}

(2) 4×10^{-7} mol dm^{-3}

(3) 7×10^{-7} mol dm^{-3}

(4) 3×10^{-8} mol dm^{-3}

4.

Find the concentration of sodium acetate when added to 0.1 M solution of acetic acid to form a buffer solution of $pH = 5.5$. (Given: pK_a of $CH_3COOH = 4.5$)

(1) 0.1 M

(2) 0.01 M

(3) 1.0 M

(4) None of these

5.

Which of the following equations gives the combined relationship of Boyle's law and Charles's law?

(1) $\frac{P_1V_2}{T_1} = \frac{P_2V_1}{T_2}$

(2) $n = \frac{RT}{PV}$

(3) $\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$

(4) $P = \frac{RT}{nV}$

6.

Which of the following forces is involved in dinitrogen?

(1) Dipole-dipole interaction

(2) Dipole-induced dipole interaction

(3) London dispersion force

(4) Hydrogen bonding

7.

Which of the following is a correct set of four quantum numbers for a 4d orbital?

(1) $(4, 3, 2, 1/2)$

(2) $(4, 2, 1, 1/2)$

(3) $(4, 1, 2, 1/2)$

(4) None of these

8.

Which of the following mixtures of gases represent water gas?

(1) $CO + H_2$

(2) $CO_2 + H_2$

(3) $H_2O + CH_4$

(4) $H_2 + O_2$

9.

Which of the following electrolytic solutions of the same electrolyte has maximum electrolytic conductivity at the same temperature?

(1) 0.2 mole of solute is dissolved in 250 ml

(2) 0.3 mol in 600 ml

(3) 0.6 mol in 1000 ml

(4) 0.8 mole in 2000 ml

10.

In an isothermal expansion of an ideal gas, the heat supplied to the gas is:

(1) entirely used to increase internal energy

(2) entirely used to do work

(3) partly used to do work and partly to increase internal energy

(4) none of the above
