

MHT CET 2026 May 19 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. Which of the following statement is correct for vapor pressure?

- (1) Vapor pressure decreases with increase in temperature
- (2) Vapor pressure is independent of temperature
- (3) Vapor pressure increases with increase in temperature
- (4) Vapor pressure becomes zero at high temperature

2. Find the number of atoms present in 11.2 L of nitrogen gas at STP.

- (1) 3.01×10^{23}
 - (2) 6.02×10^{23}
 - (3) 12.04×10^{23}
 - (4) 1.204×10^{23}
-

3. Which of the following is true for entropy?

- (1) Entropy decreases with increase in randomness
 - (2) Entropy is the measure of randomness of a system
 - (3) Entropy remains constant in every process
 - (4) Entropy is always zero for gases
-

4. Calculate the solubility in mol dm^{-3} of sparingly soluble salt BaBr if its solubility product is 4.9×10^{-13} at the same temperature.

- (1) 7×10^{-7}
 - (2) 7.5×10^{-7}
 - (3) 8×10^{-7}
 - (4) 4.9×10^{-7}
-

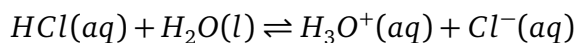
5. Calculate the pH of 0.01 M strong dibasic acid.

- (1) 5.5
 - (2) 2.5
 - (3) 2.0
 - (4) 1.7
-

6. The solubility product of PbCl_2 at 298 K is 3.2×10^{-5} . What is its solubility in mol dm^{-3} ?

- (1) 8×10^{-6}
- (2) 2×10^{-2}
- (3) 5.6×10^{-3}
- (4) 5×10^{-2}

7. Identify $Base_2$ for the following equation according to Brønsted-Lowry theory:



- (1) $H_3O^+(aq)$
 - (2) $H_2O(l)$
 - (3) $Cl^-(aq)$
 - (4) $HCl(aq)$
-

8. What is the pH of 2×10^{-3} M solution of a monacidic weak base if it ionises to the extent of 5%?

- (1) 14
 - (2) 10
 - (3) 4
 - (4) 2
-

9. A certain mass of a gas occupies a volume of 2.5 dm^3 at NTP. Calculate the change in volume of gas at the same temperature if pressure of gas is changed to 1.25 atm.

- (1) 3.0 dm^3
 - (2) 0.5 dm^3
 - (3) 4.5 dm^3
 - (4) 1.5 dm^3
-

10. Identify conjugate acid and conjugate base for HCO_3^- ion respectively:

- (1) CO_3^{2-} and H_2CO_3
 - (2) H_2CO_3 and CO_2
 - (3) CO_2 and H_2CO_3
 - (4) H_2CO_3 and CO_3^{2-}
-