

CUET 2025 June 2 Chemistry Question Paper

Time Allowed :1 Hours	Maximum Marks :250	Total questions :50
------------------------------	---------------------------	----------------------------

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The test is of 1 hour duration.
2. The question paper consists of 50 questions. The maximum marks are 250.
3. 5 marks are awarded for every correct answer, and 1 mark is deducted for every wrong answer.

1. How many molecules are present in 11.2 L of CO₂ at STP?

- (1) 6.022×10^{22}
 - (2) 3.011×10^{23}
 - (3) 6.022×10^{23}
 - (4) 3.011×10^{22}
-

2. Which metal is extracted by electrolytic reduction?

- (1) Zinc
 - (2) Iron
 - (3) Sodium
 - (4) Copper
-

3. Which of the following is an example of an addition reaction?

- (1) Ethene + Br₂ → 1,2-dibromoethane
 - (2) Ethanol → Ethene + H₂O
 - (3) CH₄ + Cl₂ → CH₃Cl + HCl
 - (4) Benzene + Br₂ → Bromobenzene
-

4. A compound contains 40% carbon, 6.7% hydrogen, and 53.3% oxygen by mass.

What is its empirical formula?

(Atomic masses: C = 12, H = 1, O = 16)

- (1) CH₂O
- (2) C₂H₄O₂
- (3) C₃H₆O₃
- (4) C₂H₂O

5. A gas occupies 500 mL at 1 atm pressure. What will be its volume at 2 atm, temperature constant?

- (1) 250 mL
- (2) 500 mL
- (3) 1000 mL
- (4) 750 mL

6. For the reaction $\text{N}_2 + 3\text{H}_2 \rightleftharpoons 2\text{NH}_3$, if equilibrium concentrations are:

$[\text{N}_2] = 0.5 \text{ M}$, $[\text{H}_2] = 1.5 \text{ M}$, $[\text{NH}_3] = 1.0 \text{ M}$

What is the value of K_c ?

- (1) 0.44
- (2) 1.2
- (3) 2.96
- (4) 0.593

7. What is the n -factor of KMnO_4 in acidic medium?

- (1) 2
- (2) 3
- (3) 5
- (4) 7

8. The enthalpy of combustion of methane is -890 kJ/mol . What is the enthalpy change when 8 g of methane is burned?

(Molar mass = 16 g/mol)

- (1) -890 kJ
 - (2) -445 kJ
 - (3) -222.5 kJ
 - (4) -556 kJ
-

9. What is the percentage of carbon in ethanol ($\text{C}_2\text{H}_5\text{OH}$)?

(Atomic masses: C = 12, H = 1, O = 16)

- (1) 52.2%
 - (2) 40.0%
 - (3) 60.0%
 - (4) 46.1%
-

10. Given:

$$E_{\text{Zn}^{2+}/\text{Zn}}^{\circ} = -0.76 \text{ V}$$

$$E_{\text{Cu}^{2+}/\text{Cu}}^{\circ} = +0.34 \text{ V}$$

What is the EMF of the galvanic cell:



- (1) $+1.10 \text{ V}$
 - (2) -1.10 V
 - (3) $+0.42 \text{ V}$
 - (4) $+0.76 \text{ V}$
-

11. How much water should be added to 100 mL of 1 M HCl to make it 0.25 M?

- (1) 100 mL
- (2) 200 mL

(3) 300 mL

(4) 400 mL
