



Class 12 Chemistry | Electrochemistry

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. In a galvanic cell, oxidation occurs at the:

- A. Cathode
- B. Both electrodes equally
- C. Anode
- D. Salt bridge

2. For $E^\circ(\text{Cu}^{2+}/\text{Cu}) = +0.34 \text{ V}$ and $E^\circ(\text{Zn}^{2+}/\text{Zn}) = -0.76 \text{ V}$, E°_{cell} is:

- A. -1.10 V
- B. -0.42 V
- C. 1.10 V
- D. 0.42 V

3. For a spontaneous cell reaction, ΔG is:

- A. Positive
- B. Negative
- C. Always zero
- D. Independent of cell emf

4. The salt bridge primarily:

- A. Raises electrode mass
- B. Stops ion migration
- C. Supplies electrons through solution
- D. Maintains electrical neutrality

5. At equilibrium the cell emf is:

- A. Always negative
- B. Always 1 V
- C. Equal to E° always
- D. Zero

6. At 298 K , for $n=2$, increasing reaction quotient Q by 100 changes E by:

- A. -0.0591 V
- B. 0 V
- C. $+0.0591 \text{ V}$
- D. -0.1182 V

7. Conductivity of an electrolyte solution usually decreases on dilution because:

- A. All ions become neutral
- B. Electrode area decreases
- C. Ion mobility becomes zero
- D. Ions per unit volume decrease

8. Molar conductivity of a weak electrolyte rises sharply on dilution because:

- A. Ionisation increases
- B. The solvent becomes metallic
- C. Ions gain mass
- D. Molar mass decreases

9. The SI unit of conductivity is:

- A. $\text{S m}^2 \text{ mol}^{-1}$
- B. $\Omega^{-1} \text{ mol}^{-1}$
- C. S m^{-1}
- D. $\Omega \text{ m}$

10. A cell has resistance 50Ω and cell constant 1 cm^{-1} . Conductivity is:

- A. 0.50 S cm^{-1}
- B. 0.020 S cm^{-1}
- C. 50 S cm^{-1}
- D. 2 S cm^{-1}

11. How many faradays deposit 1 mol Al from Al^{3+} ?

- A. 2
- B. 6
- C. 3
- D. 1

12. A current deposits 0.10 mol Ag from Ag^+ . Charge passed is:

- A. 0.05 F
- B. 0.10 F
- C. 1.0 F
- D. 0.20 F

13. Which combination gives $\Delta_m^\circ(\text{CH}_3\text{COOH})$?

- A. $\Delta^\circ(\text{HCl}) + \Delta^\circ(\text{CH}_3\text{COONa}) - \Delta^\circ(\text{NaCl})$
- B. $\Delta^\circ(\text{HCl}) + \Delta^\circ(\text{NaCl})$
- C. $\Delta^\circ(\text{HCl}) - \Delta^\circ(\text{CH}_3\text{COONa}) + \Delta^\circ(\text{NaCl})$
- D. $\Delta^\circ(\text{CH}_3\text{COONa}) - \Delta^\circ(\text{HCl})$

14. During discharge of a lead storage battery, H_2SO_4 concentration:

- A. Stays constant
- B. Increases
- C. Decreases
- D. Immediately becomes zero

15. A hydrogen-oxygen fuel cell produces mainly:

- A. Methane
- B. Carbon dioxide
- C. Hydrogen peroxide only
- D. Water

ANSWER KEY — check after completing all 15 questions

1.C 2.C 3.B 4.D 5.D 6.A 7.D 8.A 9.C 10.B 11.C 12.B 13.A 14.C 15.D