



DPP –9 CONDUCTANCE (Part 2)

Chapter: Electrochemistry

*“If you are stuck, I will help you. If you are confused, ask me. But the first step must come from you.
Start with Question 1.”*

TYPE–1 : Basic Concepts of Electrolytic Conduction

1. **Strong electrolytes are those which:**

- (1) dissolve readily in water
- (2) conduct electricity
- (3) dissociate into ions even at high concentration
- (4) dissociate into ions at high dilution.

2. **Molten sodium chloride conducts electricity due to the presence of:**

- (1) free electrons
- (2) free ions
- (3) free molecules
- (4) free atoms of Na and Cl

3. **Electrolytic conduction is due to the movement of:**

- (1) molecules (2) atoms
- (3) ions (4) electrons

4. **Electrolytic conduction differs from metallic conduction from the fact that in the former**

- (1) The resistance increases with increasing temperature
- (2) The resistance decreases with increasing temperature
- (3) The resistance remains constant with increasing temperature
- (4) The resistance is independent of the length of the conductor

TYPE–2 : Conductance Behavior with Dilution

5. **Which statement is not correct:**

- (1) Conductance of an electrolytic solution increases with dilution
- (2) Conductance of an electrolytic solution decreases with dilution
- (3) Specific conductance of an electrolytic solution decreases with dilution
- (4) Equivalent conductance of an electrolytic solution increases with dilution.

6. **Which one of the following is wrong:**

- (1) Specific conductance increases on dilution.
- (2) Specific conductance decreases on dilution.
- (3) Equivalent conductance increases on dilution.
- (4) Molar conductance increases on dilution.

7. **An increase in equivalent conductance of a strong electrolyte with dilution is mainly due to:**
- (1) Increase in number of ions.
 - (2) Increase in ionic mobility of ions.
 - (3) 100% ionisation of electrolyte at normal dilution.
 - (4) Increase in both i.e. number of ions and ionic mobility of ions.
8. **Which of the following is not correct?**
- (1) Molar conductance of a solution increases with dilution
 - (2) Equivalent conductance increases with dilution
 - (3) Specific conductance increases with dilution
 - (4) At infinite dilution each ion (cation or anion) plays a definite role towards electrical conductance
9. **Equivalent conductance of a substance increases on dilution because of**
- (1) Increase in number of ions per unit volume
 - (2) Increase in molecular attraction
 - (3) Increase in degree of association
 - (4) Increase in degree of ionisation of the substance

TYPE-3 : Factors Affecting Conductivity

10. **Which of the following solutions of NaCl will have the highest specific conductance?**
- (1) 0.001 N
 - (2) 0.1 N
 - (3) 0.01 N
 - (4) 1.0 N
11. **Which of the following solutions of KCl has the lowest value of equivalent conductance?**
- (1) 1 M
 - (2) 0.1 M
 - (3) 0.01 M
 - (4) 0.001 M
12. **Which of the following can change the conductivity of a electrolytic solution?**
- (1) Temperature
 - (2) Viscosity
 - (3) Interionic attraction
 - (4) All of these
13. **The value of specific conductivity is maximum for**
- (1) 0.1 M NaCl
 - (2) 0.01 M NaCl
 - (3) 10^{-4} M NaCl
 - (4) All will have equal specific conductivity
14. **Limiting molar conductivity of which among the following ion is maximum in water at 298 K**
- (1) H^+
 - (2) Na^+
 - (3) K^+
 - (4) Ca^{2+}
15. **The value of molar conductivity of HCl is greater than that of NaCl at a particular temperature because:**
- (1) Molecular mass of HCl is less than that of NaCl.
 - (2) Velocity of H^+ ions is more than that of Na^+ ions
 - (3) HCl is strongly acidic
 - (4) Ionisation of HCl is larger than that of NaCl
16. **The highest electrical conductivity of the following aqueous solution is of**

- (1) 0.1 M fluoroacetic acid
- (2) 0.1 M difluoroacetic acid
- (3) 0.1 M acetic acid
- (4) 0.1 M chloroacetic acid

17. **Which has maximum conductivity:**

- (1) $[\text{Cr}(\text{NH}_3)_6] \text{Cl}_3$
- (2) $[\text{Cr}(\text{NH}_3)_5] \text{Cl}_3\text{Cl}$
- (3) $[\text{Cr}(\text{NH}_3)_4] \text{Cl}]\text{Cl}_2$
- (4) $[\text{Cr}(\text{NH}_3)_3]\text{Cl}_3$