



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions. (15x2=30)

- a) What is Standard Deviation and Relative Standard Deviation?
- b) What is Photoelectric Effect?
- c) What are Probability functions?
- d) State Law of Mass Action. Give its one application.
- e) Give two postulates of quantum mechanics.
- f) How Acetaldehyde and Acetone can be distinguished?
- g) Differentiate between Absorption and Emission Spectroscopy.
- h) Define Buffer. Give two examples
- i) Define Standard Reduction Potential. Give one example.
- j) Give preparation of Acid Anhydrides.
- k) What is De-Broglie Equation? Give its Significance.
- l) Define Common Ion effect. Give its one application.
- m) Write down Hittort's rule for migration of ions.
- n) What is Cell Constant?
- o) Give mechanism of Cannizarro's reaction.

Q.2. Answer the following questions (6x5=30)

- a) Explain Malonic and Acetoacetic ester syntheses with mechanism(s).
- b) Give detailed mechanism for Wittig reaction.
- c) How Buffer work? Derive an equation which controls the pH of Buffers.
- d) Explain Wittig Reaction along with its mechanism.
- e) Explain the construction and working of UV/Vis spectrophotometer.
- f) Explain Kohlrausch's law. Give its importance in Electrochemistry.