1. **Project Associate**

Section-I: Analytical Ability, Computer Skills and Communication Skills (30 Marks)

Communication skills; Logical, quantitative and visual-spatial reasoning; Computer skills, computer applications and proficiency in using windows, MS office etc.; General knowledge/current affairs.

Section-II: Professional (70 marks)

Basic Science: Redox and Complexometric, acid base titrations, Calibrations of volumetric kits, Preparation/standardization of solutions. Basic knowledge of Electro Chemistry; Electro Chemical reactions, non-equilibrium electro chemistry; Ions in Solution; Handling of chemical and analysis involving safety and hygiene in the Lab; Determination of errors in Chemical analysis. Knowledge of titrimetric method of analysis involving types of titration, concentration system (Molarity, molality, normality, mole fraction etc.) Basic knowledge of gravimetric & thermal methods of analysis; Knowledge of Bio-monitoring. Green chemistry, nanomaterials, photochemistry, thermodynamics, chemical kinetics, synthetic and natural polymers.

General Micro-Biology involving Microscopy and observations of microbes, characteristics and cultivation of Micro-organisms, Microbial growth, control of micro-organisms. Microbial ecology and Water Microbiology etc.; toxicity testing, toxicity of pesticide/metals.

Pollution and its types: Atmospheric pollution: causes, consequences and control, Aquatic pollution: causes, consequences and control, Lake types, Primary, secondary and tertiary treatment of sewage, sewage treatment plant, Land pollution: causes, consequences and control, Management of solid wastes, Forest degradation and conservation measures, Water borne diseases, Pesticide problem.