1. **Project Associate (Microbiologist)**

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)

Microbial Physiology - Types of microbes, Sulphur and phosphorus metabolism, Biological Nitrogen Fixation, Photosynthesis, Respiration; Microbial biochemistry - Microbial biochemistry - Biomolecules, Carbohydrates, Lipids, Amino acids, Proteins, Enzymes, Organization of genetic material; Environmental Microbiology **-** Occurrence of microbes, Thermophilic microbes, Alkalophilic microbes, Acidophilic microbes, Halophilic microbes, Desiccation-tolerant microbes, Aeromicroflora, Microbes in water and wastewater, Role of microorganisms in secondary treatment of sewage, Anaerobic digestion of sludge, Microbial degradation of synthetic pesticides and petroleum hydrocarbons; Agricultural Microbiology **-** Role of microbes in agriculture, Plant diseases- General symptoms, Mode of infection, Dispersal of plant pathogens; Food Microbiology - Microbes as source of food: mushrooms, single cell protein, Microbial spoilage of food and food products, Role of microbes- Food poisoning, Microbial toxins, Bioassay methods, Microbial food borne diseases, Microbes and fermented foods.