

Scientist B – Soils

Name of the post	Subject	Syllabus
Scientist B – Soils	Agriculture	General Agriculture-All basic courses (Agronomy, Genetics & Plant Breeding, Soil Science & Agricultural Chemistry, Plant Physiology, Plant Pathology, Agricultural Economics & Agricultural Marketing, Statistics, Plant Biotechnology, Plant Biochemistry)
	Soil Science	Soil Science: Soil properties, moisture, fertility, nutrient management, organic matter. Soil Physics: Texture, structure, porosity, water (potential, infiltration), temperature, aeration. Soil Fertility & Plant Nutrition: Essential nutrients, fertilizer use, nutrient management, soil testing. Soil Microbiology: Microbial transformations, nutrient cycles, rhizosphere, biofertilizers, waste management. Problem Soils: Management of acidic, saline, alkali soils.
	Agricultural Chemistry	Soil Chemistry Soil Colloids & Surfaces: Diffuse double layer, zeta potential, point of zero charge, surface charge characteristics, clay-organic interactions. Ion & Water Chemistry: Cation/Anion exchange, adsorption isotherms, soil solution, thermodynamics, salt/acid soil chemistry. Organic Matter: Fractionation, humus formation, decomposition, soil enzymes.