

# Syllabus for Agribusiness Management PGQP08(xi)

## **Agronomy and its scope:**

Seeds and sowing, tillage and tith, crop density and geometry, Crop nutrition, manures and fertilizers, nutrient use efficiency, water resources, soil-plant-water relationship, crop water requirement, water use efficiency, irrigation- scheduling criteria and methods, quality of irrigation water, logging.

## **Weeds:**

Importance, classification, crop weed competition, concepts of weed management principles and methods, herbicides- classification, selectivity and resistance, allelopathy.

## **Crop Production Technology**

Rabi and Kharif crops, Farming System and Sustainable Agriculture, Sustainable agriculture-problems and its impact on agriculture, indicators of sustainability, adaptation and mitigation, conservation agriculture strategies in agriculture, Organic farming, principles and its scope in India; Precision agriculture: concepts and techniques; their issues and concerns for Indian agriculture

## **Water harvesting:**

Importance and techniques. Mendelian principles of heredity, Architecture of chromosome; chromonemata, chromosome matrix, chromomeres, centromere, secondary constriction and telomere; special types of chromosomes. Chromosomal theory of inheritance- cell cycle and cell division- mitosis and meiosis. Genetics in relation to plant breeding, Principles of Seed Technology.

**Pedological and edaphological concepts of soil;** Soil genesis: soil forming rocks and minerals; weathering, processes and factors of soil formation; Soil Profile, components of soil; Soil physical properties, Problematic Soils and their Management

## **Agricultural economics:**

Meaning, definition, characteristics of agriculture, importance and its role in economic development. Agricultural planning and development in the country. Agricultural Finance- meaning, scope and significance, credit needs and its role in Indian agriculture. Agricultural credit: meaning, definition, need, classification.

**Credit Analysis:** 4R's and 3C's of credits. Sources of agricultural finance: institutional and non-institutional sources, market structure, marketing mix and market segmentation, GATT and WTO; Agreement on Agriculture (AoA) and its implications on Indian agriculture farm management principles, production functions, Consumer behavior analysis, Product Life Cycle (PLC). Sales & Distribution Management. Pricing policy, various pricing methods. Project Management definition, project cycle, identification. Introduction to Statistics and its Applications in Agriculture, Graphical Representation of Data, Measures of Central Tendency & Dispersion

**Introduction to Soil and Water Conservation**, causes of soil erosion. Definition and agents of soil erosion, water erosion: Forms of water erosion. Soil loss measurement techniques. Principles of erosion control, Introduction to contouring, strip cropping. Contour bund.

**Importance of plant diseases, scope and objectives of Plant Pathology:**

Pathogenesis, Causes / factors affecting disease development: disease triangle and tetrahedron and classification of plant diseases. Important plant pathogenic organisms, different groups: fungi, bacteria, fastidious vesicular bacteria, phytoplasmas, spiroplasmas, viruses, viroids, algae, protozoa, phanerogamic parasites and nematodes with examples of diseases caused by them. Diseases and symptoms due to abiotic causes. IPM: Introduction, history, importance, concepts, principles and tools of IPM. Pests of Crops and Stored Grains and their Management

**Plant propagation-:**

Methods and propagating structures; Seed dormancy, Seed germination, principles of orchard establishment; Principles and methods of training and pruning Production Technology for Fruit and Plantation Crops Post-harvest Management and Value Addition of Fruits and Vegetables

**Rural Development:** concept, meaning, definition; various rural development programmes launched by Govt. of India. Meaning, definition, concept & principles, Philosophy of C.D.

**Rural Leadership:**

Concept and definition, types of leaders in rural context; extension administration: meaning and concept, principles and functions. Meaning and process of communication, verbal and nonverbal communication

**Mineral nutrition of Plants:** Functions and deficiency symptoms of nutrients, nutrient uptake mechanisms; Photosynthesis: Light and Dark reactions, C3, C4 and CAM plants, Role of microbes in soil fertility and crop production, definitions of basic terms related to forestry, objectives of silviculture.

**Important Indian and exotic breeds:**

Breeds of cattle, buffalo, sheep, goat, swine and poultry. Improvement of farm animals and poultry.