

# CUET 2022 Agriculture Syllabus



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### Unit-1: Agrometeorology, Genetics, and Plant Breeding, Biochemistry and Microbiology:

Agrometeorology: Elements of Weather-rainfall, temperature, humidity, wind velocity, Sunshine weather forecasting, climate change in relation to crop production.

Genetics & Plant Breeding:

- (a) Cell and its structure, cell division-mitosis, and meiosis, and their significance
- (b) Organisation of the genetic materials in chromosomes, DNA and RNA
- (c) Mendel's inheritance laws. Reasons for the success of Mendel in his experiments, Absence of linkage in Mendel's experiments.
- (d) Quantitative inheritance, continuous and discontinuous variation in plants.
- (e) Monogenic and polygenic inheritance.
- (f) Role of Genetics in Plant breeding, self, and cross-pollinated crops, methods of breeding in field crops-introduction, selection, hybridization, mutation and polyploidy, tissue, and cell culture.
- (g) Plant Biotechnology definition and scope in crop production.

Biochemistry: pH and buffers, Classification, and nomenclature of carbohydrates; proteins; lipids; vitamins and enzymes. Microbiology: Microbial cell structure, Micro-organisms- Algae, Bacteria, Fungi, Actinomycetes, Protozoa, and Viruses. Role of micro-organisms in respiration, fermentation, and organic matter decomposition

### Unit-2: Livestock Production

- (a) Importance of livestock in agriculture and industry, White revolution in India.
- (b) Important breeds Indian and exotic, distribution of cows, buffaloes, and poultry in India. Care and management:
  - (a) Systems of cattle and poultry housing
  - (b) Principles of feeding, feeding practices.
  - (c) Balanced ration-definition and ingredients.
  - (d) Management of calves, bullocks, pregnant and milch animals as well as chicks' cockerels and layers, poultry.
  - (e) Signs of sick animals, symptoms of common diseases in cattle and poultry, Rinderpest, black quarter, foot and mouth, mastitis and Haemorrhagic septicaemia anaemia coccidiosis, Fowl pox and Ranikhet disease, their prevention, and control.

Artificial Insemination: Reproductive organs, collection, dilution and preservation of semen and artificial insemination, the role of artificial insemination in cattle improvement. Livestock Products: Processing and marketing of milk and milk products.

**Note: There will be one Question Paper that will have 50 questions out of which 40 questions need to be attempted.**



### Unit-3: Crop Production

- (a) Targets and achievements in food grain production in India since independence and its future projections, sustainable crop production, commercialization of agriculture, and its scope in India.
- (b) Field crop classification is based on utility cereals, pulses, oils seeds, fibre, sugar, and forage crops. Soil, Soil fertility, Fertilizers, and Manures:
- (a) Soil, soil pH, soil texture, soil structure, soil organisms, soil tilth, soil fertility, and soil health.
- (b) Essential plant nutrients, their functions, and deficiency symptoms.
- (c) Soil types of India and their characteristics.
- (d) Organic manure, common fertilizers including straight, complex, fertilizer mixtures and biofertilizers; integrated nutrient management system. Irrigation and Drainage: (a) Sources of irrigation (rain, canals, tanks, rivers, wells, tube wells).
- (b) Scheduling of irrigation based on critical stages of growth, time interval, soil moisture content, and weather parameters.
- (c) Water requirement of crops.
- (d) Methods of irrigation and drainage.
- (e) Watershed management

**Weed Control:** Principles of weed control, methods of weed control (cultural, mechanical, chemical, biological, and Integrated weed management).

**Crops:** Seedbed preparation, seed treatment, time and method of sowing/planting, seed rate; dose, method and time of fertilizer application, irrigation, intercultural and weed control; common pests and diseases, caused by bacteria, fungi virus, and nematode and their control, integrated pest management, harvesting, threshing, post-harvest technology: storage, processing, and marketing of major field crops-Rice, wheat, maize, sorghum, pearl millet, groundnut, mustard, pigeon-pea, gram, sugarcane, cotton, and berseem.

### Unit-4: Horticulture

- (a) Importance of fruits and vegetables in the human diet, Crop diversification & processing Industry.
- (b) Orchard- location and layout, ornamental gardening, and kitchen garden.
- (c) Planting system, training, pruning, intercropping, protection from frost and sunburn.
- (d) Trees, shrubs, climbers, annuals, perennials-definition, and examples. Propagation by seed, cutting, budding, layering, and grafting.
- (e) Cultivation practices, processing, and marketing of:
- (i) Fruits - mango, papaya, banana, guava, citrus, grapes.
- (ii) Vegetables - Radish, carrot, potato, onion, cauliflower, brinjal, tomato, spinach, and cabbage.
- (iii) Flowers - Gladiolus, canna, chrysanthemums, roses, and marigold.
- (f) Principles and methods of fruit and vegetable preservation.
- (g) Preparation of jellies, jams, ketchup, chips, and their packing

