

AGRICULTURE:

- ❖ Definition of Agriculture, its branches
- **Crop Production**: Cereals, Pulses, Oilseed, fodder & fibre crops, Commercial crop.
- **HORTICULTURAL CROPS**: Fruits, Vegetable, Flower, Spices (including Nursery bed preparation, treatment of nursery soil, seed treatment, seed sowing and care).
- **SEED PRODUCTION**: pollination and fertilization, Self and cross pollinated crops, Definition of pure lines, inbred, hybrids, composites and synthetics.
- **ORGANIC FARMING**: Concept, history and importance of Organic farming, important food products, Important Government Schemes (promotional), Kitchen gardening.

Advance Crop Production:

- Food production including horticultural crops
- Soil fertility, productivity and concept of essential plant nutrients (role, function and classification of nutrients).
- Soil pH and Organic Carbon.
- Manure, fertilizers, Bio-fertilizers, their methods of application.
- Concept of soil moisture (precision and pressure irrigation - Drip and sprinkler irrigation)

GENETICS AND PLANTBREEDING

- Cell and its structure, cell division-Mitosis and Meiosis, DNA, RNA, and their differences.
- Mendel's laws of Inheritance

Physical Environment: (Climate, Soil and preparation of land)

- Climate and Weather, elements of Weather: Rainfall, Temperature, Humidity, Wind, Sunshine, Climate Change and Global warming.
- Soil, its texture and structure and its types, distribution and area, Soil erosion and Soil conservation.
- Tillage definition and types

POST PRODUCTION AND POST HARVESTING HANDLING, PACKAGING AND PROCESSING (Products from Plants and Animal)

- Importance of livestock in Agriculture
- Important animal based food products
- Post harvesting management of fruits, vegetables and flowers, cereals, pulses and oil seeds
- Concept of clean milk production processing, pasteurization and packaging and milk

ANIMAL HUSBANDRY

- Important indigenous and exotic breeds of cattle, buffalo and poultry.

Bio-Waste Management

- Utilization of animals in Bio-wastes and Biogas plant.

Cooperative system in Agriculture

- Crop insurance. Kisan Credit Cards. Marketing of Agricultural products, role of Krishi Vigyan Kendra in dissemination of Agricultural Technologies
- Agricultural marketing and management strategies, Market structure and intelligence, Marketing efficiency, Price fluctuations, Agricultural Price Policy, Crop Insurance, Market Institutions, Warehouses and rural go- downs, Cooperatives, Commodity boards, Agri business management and principles
- Buffer Stock, Agricultural development through NITI AYOOG, Import and export, Role of NSC, FCI and PDS, Important principles and basic concepts in Agricultural Statistics.

Subsidiary enterprises of agriculture.

- Bee keeping, Silkworm rearing, mushroom culture,
- Bio-pesticides Organic manures and Vermi composting.
- Setting up nurseries and marketing of plant sapling and important Govt. Schemes for the support of these enterprises