Unit -I - Agronomic principles, practices and meteorology


Unit-II - Dry Farming and Agro-Forestry

Production; Watershed development – definition and components


Unit-III -Soils and Fertility Management


Unit-IV- Horticultural Crop Cultivation Techniques


and Succulents – Indoor Plants and Indoor Decoration – Cut Flowers – Flower arrangement – Bonsai Culture and dry flower decoration.


Unit-V -Breeding and Seed Production


Unit-VI -Plant Protection Principles and Practices

Control – Parasitoids, Predator and Microbial Agents.

Pesticides – Groups, Classification, Mode of Action – Formulation and Uses, Principles of Pesticides application – Hazards in the use of Pesticides and Environmental Pollution – Safe Handling of Pesticides – Pesticide residue - Behavior modifying chemicals – Use of Pheromones in pest management and behavioral modifying chemicals; approach.


Major diseases caused by Fungi, Bacteria, Virus and Mycoplasma in Cereals (Rice, Sorghum, Maize, Cumbu, Ragi), Pulses ( Red gram, Black gram, Green gram, Bengal gram, Cowpea, Lablab) – Oil seeds (Groundnut, Gingelly, Sunflower, Castor), Cash crops (Cotton, Sugarcane, Tobacco, Betelvine) – Fruits (Mango, Banana, Grapevine, Sapota, Pomegranate, Papaya) – Vegetables (Tomato, Chilllies, Brinjal, Bhendi, Cucurbits, Crucifers, Onion, Garlic) – Plantation crops (Coffee, Tea, Rubber, Coconut, Areacanut) – Spices (Turmeric, Pepper, Cardamom, Coriander, Ginger) – Flowers (Rose, Jasmine, Crossandra, Chrysanthemum) and their management.

**Unit-VII- Livestock, Poultry Management, Artificial Insemination and Calf Rearing**


Artificial Insemination – merits and demerits – Housing management – farm site selection space requirement for calves, heifer, milch animal and work bullocks – Type and design of house. – Systems of housing – Single row system – Double row system – head to head and tail to tail – merits and demerits – Care and management of new born calf and heifers – Care and management of pregnant, lactating animals and work bullocks.


Poultry Nutrition – composition of chick mash grower, layer, broiler starter and finisher mashes – Feed Conversion Ratio / dozen eggs or kilogram of meat. Classification of Poultry diseases – Viral – Bacterial – Protozoan – Causative organisms, symptoms, causes and prevention – Viral diseases – Ranikhet disease - Infectious bursal disease
– Bacterial disease – E. coli – Coryza – Salmonellosis – Protozoan – Coccidiosis – Vitamin and mineral deficiencies

Unit-VIII -Farm Machinery and Post Harvest Technology


Unit-IX Energy and Environment

Energy Resources and Forms of Energy – Conventional and Non Conventional Energy


Unit X -Commercial Agriculture

Bio-Control Agents, Mushroom Cultivation, Fruits and Vegetables Processing, Hybrid Seed Production, Nursery Technology, Organic Composting and Broiler Production

Importance – History and development of bio-control agents - classical examples of bio- control agents – Role in pest and disease management – Categories of bio-control agents. Setting up a bio-control laboratory. Mass culture of tobacco caterpillar (Spodoptera litura) and gram pod borer (Helicoverpa armigera)- synthetic diet – mass production of SINPV and HaNPV. Mass production of Trichogramma spp., Chrysoperla, coccinellid predators, Trichoderma viride, Pseudomonas fluorescens and Entomo- pathogenic nematodes


Floor layout of Fruit and Vegetable processing Industry – Equipments and Accessories used in processing Industry – Preparation of Squash, Syrup, Cordial, Nectar, Ready to serve beverages (RTS) – Fruit juice concentrate – Paste, Powder, Bar – Jam, Jelly, Marmalade and Candy, Preserve – Pickles – Oil, Salt and vinegar – Tomato products – Ketch up. Sauce, Puree

Definition – Production of hybrids – Development of inbreds – Single cross evaluation – Prediction of double cross performance – Production of hybrid seed – Cytoplasmic, Genetic male sterility – Maintenance of Male sterile lines – Production of single cross hybrids – Production of double cross hybrid varieties - Manual emasculation and / or Pollination – Chemically induced male sterility – Merits and demerits of hybrid varieties
– Floral biology, anthesis, pollination, selfing, emasculation and crossing technique in Rice, Sorghum, Pearl millet, Red gram, Castor, Sunflower, Cotton, Tomato, Bhendi.


Selection of nursery area – preparation of seeds and seed treatment – Sowing and raising of rootstocks (Fruits and Flower Crops) – Application of Liquid Manure and plant protection of rootstock – Potting materials and Preparation of pot mixture – Potting of Rootstock and Hardening – Selection of Scion Plants and Grafting, Aftercare of Grafted Plants, Graft Separation and Hardening – Preparation of Cuttings of Ornamental Plants, Treating the Cuttings with growth regulators and Planting in Mist Chamber in Beds/Polybags, Potting of Rooted Cuttings and Hardening – Air Layering of Ornamental/Fruit Crops – Budding of Ornamental Plants (Rose) – Maintenance of Potted Plants – Packing and Marketing .

Agricultural, Industrial and Urban wastes - Nutrient potential of different organic manures – Preparation of FYM Compost – Composting methods - Preparation of enriched FYM – Coirpith composting – Sugarcane trash – Pressmud - Farm wastes and farm weeds - Parthenium composting – Determination of maturity indices of composts

Preparation of poultry house for receiving new chicks for broiler production – Disinfection – Sanitation procedures – Arrangement of Brooders, brooding, spreading of litter and medication – Medication schedule and vaccination - broiler chicks – Measures to control respiratory problems. Coccidiosis and their management problems
– Feeding, watering, spacing – Management of litter – Use of growth promoters and feed additives – Improvement of feed intake and feed conversion efficiency – Composition of broiler feeds, feeding ages and consumption levels – Commonly used ingredients in feed mixing for broilers – Least cost feed formulation – Observation on feed consumption, use of stimulants – Recording of body weight of broilers during growth - Management of broilers during summer – winter – Common basic post mortem findings to know the cause of death – Dressing procedures to prepare ready to cook broilers – Various poultry meat preparations.


**Unit XI- Agrl.Extension and Agrl.Economics**

Rural Economics and Agricultural Economics – Meaning, importance and scope
– Sectors of Economy - Importance of agriculture in rural economy: Problems of rural economy

Rural Banking and Finance: Meaning and Concept – Classification and purpose

Types of agro-industries – Rural industries project - Khadi and Village Industries


Cooperative agricultural marketing societies and regulated markets – Role of National Agricultural Cooperative Marketing Federation and TANFED. Role of specialized agencies viz., Food Corporation of India, Central Warehousing Corporation, State Warehousing Corporation in marketing of agricultural commodities and CCI.


Visit to a village – Identifying resources, conducting participatory rural appraisal (PRA), conducting SWOT (strengths, weaknesses, opportunities and threats) analysis and preparing action plan for village development. 

Visiting farmers – Analysis of farm resources and studying the life style of farmers, earnings, enterprises, expenditure pattern, technical information seeking behavior and dissemination of technologies. Finding the factors of adoption of technologies. 

Problem diagnosis study – visiting farmers’ fields, identifying technical and frequent problems like soil, pest, disease, disorders and other problems in agriculture, obtaining solutions from known sources and providing them to the farmers. 

Visiting agro service centers – Studying the business techniques, farmers approach, distribution pattern, dealership pattern, knowing different agro chemicals available in markets and their prices, gaining experience in solving the farmers problems in agro service centers. 

Visiting daily vegetable wholesale markets and assessing the price fluctuation and preparing price trend calendar for different vegetables. Preparing line chart for maximum price of different vegetables grown in the district and identifying optimum sowing period for different vegetables. 

Study the potentialities, prospects and to get clear knowledge about starting agro industries.

**Unit XII Computer Application**

Paper-II
General Studies
(H.S.C Standard)

Unit-I General Science:
Chemistry-Elements and Compounds-Acids, bases and salts- Fertilizers, pesticides, insecticides
Botany-Main Concepts of life science-Classification of living organism-Nutrition and dietetics-Respiration
Zoology-Blood and blood circulation-Reproductive system-Environment, ecology, health and hygiene-Human diseases, prevention and remedies-Animals, plants and human life

Unit- II. Current Events:
History Latest diary of events-national -National symbols-Profile of States-Eminent persons & places in news-Sports & games-Books & authors -Awards & honors'-India and its neighbours
Political Science-Problems in conduct of public elections-Political parties and political system in India-Public awareness & General administration - Welfare oriented govt. schemes, their utility-
Geography-Geographical landmarks-
Economics :Current socio-economic problems
Science: Latest inventions on science & technology


Unit – IV: History and culture of India and Tamil Nadu Indus valley civilization-Guptas, Delhi Sultans, Mughals and Marathas-Age of Vijayanagaram and the bahmanis-South Indian history-Culture and Heritage of Tamil people-India since independence-Characteristics of Indian culture-Unity in diversity – race, colour, language, custom-India-as secular state-Growth of rationalist, Dravidian movement in TN-Political parties and populist schemes.

Unit - VI: INDIAN ECONOMY


Unit - VII: INDIAN NATIONAL MOVEMENT

National renaissance--Emergence of national leaders-Gandhi, Nehru, Tagore-Different modes of agitations-Role of Tamil Nadu in freedom struggle Rajaji, VOC, periyar, Bharathiar & others

Unit - VIII: APTITUDE & MENTAL ABILITY TESTS


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