

Code 08: MAJOR SUBJECT GROUP - HORTICULTURE

(Subjects: 8.1 : Horticulture, 8.2: Vegetable Crops / Sci, Olericulture, 8.3: Pomology Fruit Sc., Fruit and Orchard crops, Management of Plantation Crops, Fruit Breeding 8.4 : Post - harvest Technology of Horticultural Crops / PHM, 8.5 : Floriculture & Landscaping, 8.6: Spices and Plantation Crops / Medicinal and Aromatic Plants)

UNIT - I : Importance of Agriculture in national economy; basic principles of crop production; cultivation of rice, wheat, chickpea, pigeon - pea, sugarcane, groundnut, tomato and mango. Major soils of India, role of NPK and their deficiency symptoms. Structure and function of cell organelles; mitosis and meiosis; Mendelian genetics; elementary knowledge of photosynthesis; respiration, and transpiration; structure and functions of carbohydrates, proteins, nucleic acids, enzymes and vitamins. Major pests and diseases of rice, wheat, cotton, chickpea, sugarcane and their management. Important rural development programs in India; organizational set up of agricultural research, education and extension in India; Elements of statistics.

UNIT - II : Layout and establishment of orchards: pruning and training; propagation, climatic requirement and cultivation of fruits like mango, banana, citrus, guava, grape, pineapple. papaya, apple, pear, peach and plum; cultivation of plantation crops like coconut and cashew nut and spices like black pepper, coriander, turmeric, important physiological disorders; major vegetable crops of tropical, subtropical and temperate regions like cole crops (cauliflower, cabbage and knol khol), cucurbits (pumpkin, bottlegourd, bittergourd, luffa, muskmelon and watermelon, cucumber), root crops (radish, tapioca sweet potato and potato), leafy vegetables (fenugreek and spinach);

Solanaceous crops (tomato, chillies and brinjal); techniques for raising the nursery; nutritive value of fruits and vegetables and their role in human nutrition; basic physiology of ripening in fruits and vegetables and their products; type of fruits and vegetable products and control of fungal and bacterial diseases; major floricultural crops grown in India for commercial purposes like rose, carnation, chrysanthemum, marigold, tuberose, gladiolus, orchids; establishment and maintenance of lawns, trees, shrubs, creepers. hedges and annuals; type of gardens, methods of crop improvement; male sterility and incompatibility; pure line and pedigree selection; backcross, mass selection; heterosis; plant nutrients, deficiency symptoms of nutrients, manures and fertilisers, systems of irrigation, management of important pests and diseases of fruits and vegetables.