

# **RAJASTHAN PUBLIC SERVICE COMMISSION, AJMER**

## **SYLLABUS FOR COMPETITIVE EXAMINATION FOR THE POST OF ASSISTANT PROFESSOR IN AGRICULTURE HORTICULTURE FOR COLLEGE EDUCATION DEPARTMENT**

### **PAPER- II**

#### **1. Vegetable Production-**

Importance and scope of Vegetables. Classification of vegetables, Types of vegetable gardening, hydroponic, roof top vegetable gardening and protected cultivation of vegetable crops (Hi-tech horticulture), Introduction of organic vegetable farming, Brief about underutilized vegetable crops. General constraints in vegetable production, climatic and soil requirements, commercial varieties/hybrids, sowing/planting time and methods, seed rate and seed treatment, Plant Growth regulators, nutritional and irrigational requirements, inter cultural operations, weed control, mulching, physiological disorders, harvesting, post-harvest management, plant protection measures and economics of crop production.

A. Tomato, brinjal, hot and sweet peppers, potato, okra, vegetable cowpea, vegetable cluster bean, cucurbitaceous crops, colocasia, sweet potato and green leafy vegetables.

B. Cabbage, cauliflower, knol-khol, sprouting broccoli, exotic vegetables, carrot, radish, onion, garlic and peas.

#### **2. Floriculture and Ornamental Gardening -**

Importance and scope of floriculture in India. Varietal wealth and diversity, propagation, nursery management, pro-tray nursery under shade nets, transplanting techniques, soil and climatic requirements, precision farming techniques, water and nutrient management, weed management, training and pruning, pinching and disbudding, special horticultural practices, use of growth regulators, physiological disorders and remedies, IPM and IDM, flower forcing and year round flowering, harvesting techniques, post harvest handling and grading, packing and storage, value addition, concrete and essential oil extraction of cut/scented roses, chrysanthemum, gerbera, gladioli, tuberose, carnation, dahlia, Jasmine, marigold, gaillardia, ixora, lilies, aster and cut foliage. Landscape gardening, styles of gardening, different features of garden, arboretum, shrubbery, fernery, palmatum, arches and pergolas, edges and hedges, climbers and creepers, cacti and succulents, herbs, annuals and flower borders and beds, ground covers, carpet beds, establishment and maintenance of lawn. Bio-aesthetic planning. Eco-tourism and its relationship with landscaping, theme parks, indoor gardening, xeriscaping, hardscaping, waterscaping and non-plant components.

#### **3. Breeding and Seed Production of Vegetable Crops -**

Origin, botany, taxonomy, cytogenetics, breeding objectives, breeding methods (introduction, selection, hybridization, mutation), varieties and varietal characterization, resistance breeding for biotic and abiotic stress, quality

improvement, biotechnology and their use in breeding in Solanaceous, cucurbitaceous, cole crops, legume, bulb and root crops etc. Scope of vegetable seed industry in India. Use of growth regulators and chemicals in vegetable seed production, methods of hybrid seed production, categories of seed, seed certification, seed standards, physiological maturity, seed harvesting and extracting, curing, drying, grading, seed processing, seed coating & pelleting, packaging and storage of seeds.

#### **4. Spice, Plantation, Medicinal and Aromatic Crops -**

National and international importance of spice, medicinal and aromatic crops. Climatic and soil requirement, commercial varieties, hybrids, sowing, planting time and methods, seed rate and seed treatment, nutritional and irrigation requirements, intercultural operations, weed control, mulching, physiological disorders, harvesting and post harvest management, plant protection measures, organic resource management, organic certification, quality control and cultivation of:

**Spices:** Clove, black pepper, cardamom, cinnamon, turmeric, ginger, coriander, fenugreek, cumin, fennel, *ajowain*, dill, celery, vanilla.

**Medicinal crops:** *Isabgol*, aloe, ashwagandha, *gugal*, senna, *safed musli* and opium poppy.

**Aromatic crops:** lemon grass, *vetivar*, basil, citronella, mint etc.

Salient production techniques of coconut, cashew nut, tea, coffee, areca nut and rubber.

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#### **Note: - Pattern of Question Paper**

1. Objective type paper
2. Maximum Marks: 75
3. Number of Questions: 150
4. Duration of Paper: Three Hours
5. All questions carry equal marks.
6. Medium of Competitive Exam: Bilingual in English & Hindi
7. There will be Negative Marking