

# **Rajasthan Public Service Commission, Ajmer**

## **RAJASTHAN STATE AND SUBORDINATE SERVICES COMBINED COMPETITIVE EXAMINATION**

### **SYLLABI OF THE PAPER/SUBJECTS PRESCRIBED FOR THE MAIN EXAMINATION**

#### **OPTIONAL SUBJECT**

#### **CROP HUSBANDRY WITH HORTICULTURE PAPER-I (Code No. 08)**

Agro climatology - major agro climatic zones of India and Rajasthan, cropping pattern in different agro climatic zones, elements of crop production.

Study of following crops with reference to their importance, origin, distribution and production in Rajasthan and India; soil and climatic requirement, growth and development stages, improved varieties, seed and sowing, intercultural operations, fertilizer, water and weed management, plant protection measures. Harvesting and yield, post harvest technology.

Pearl, millet, maize, sorghum, paddy, minor millet, groundnut, soyabean, moth bean, pigeon pea, cotton and sesame.

Wheat, barley, rapeseed and mustard, chickpea, sugar cane, potato and tobacco.

Study of following crops in brief (in the form of packages); Castor urd bean, cluster bean, cowpea, Niger, sunflower, safflower, greengram, lin seed, safflower, taramira, sugar beat, and lentil.

Importance of dry land farming, rainfed agriculture, cultural practices for rainfed agriculture, aberrant weather conditions and their impact, watershed management concept-principles and objectives. Salt affected soils and their management.

Ecology - its significance and scope, Ecosystem - structure and function, energy flow and biogeochemical cycles.

Limiting factors of environment, concept of agro-ecosystem, environment and agriculture, Diversification of agricultural ecological perspective, impact of agricultural practices on agro-ecosystem. Integrated approaches in management of agriculture. Global warming and its impact on agriculture, Environmental pollution, Natural resources and their conservation, Population explosion and food production.

Classification fruits according to climate requirements. Fruits of different agro climatic zones of Rajasthan, fruit production, export potential., varieties- climate and soil requirement, propagation techniques, planting density and systems, after care, training and farming-management of water, nutrient and weeds-special horticulture techniques including plant growth regulations-physiological disorders, post harvest technology, harvesting indices, harvesting methods, grading, packing and storage and important insects, pests diseases and their control of following fruits, mango, banana, citrus (sweet oranges, mandarins (santra) and limes), papaya, sapeta, guava, pineapple, pomegranate,, Ber, Aonla and datepalm.

Plantation crops-coconut, cashew nut, spices and condiments, coriander, cumin, methi, turmeric, ginger, Medicinal plants-opium and Isabgol. Bearing problems in mango, citrus and apple, like alternate and irregular bearing, sex expression and seed production in papaya papain production. Replant problem and special production problem like premature leaf fall, physiological disorders.

Area, production, economic importance, export potential, hybrids and production technology including seed production of following vegetable crops- Tomato, brinjal, chilies, okra, cluster bean, cowpea, cucurbits, Bottle gourd. Round melon, Luffa (torai), watermelon, muskmelon, round melon, bitter gourd, pumpkin, cauliflower, cabbage, onion, garlic, radish, carrot, turnip, peas and beans, spinach and potato.

## **CROP HUSBANDRY WITH HORTICULTURE PAPER-II**

### **(Code No. 08)**

Study of the following forage crops in respect of origin and adaptation, species and varieties, crop management, yield and utilization, seed production of Lucerne, berseem, oats, forage-sorghum, Napier grass and cowpea. Forage preservation - Hay making, methods, silage, advantages and disadvantages, type of silo, quality of silage.

Area, Major types conditions and improvement of grass land study of Cenchrus, Pannicum and Sewan.

Definition of weeds, damages caused by weeds and benefits derived by weed control, classification of weeds., weed crop interference and factors affecting problem of weeds in Rajasthan in cropped as well as non cropped areas, Dissemination and persistence of weeds, important method of weed control, weed prevention and eradication Vs weed control concept of integrated weed management.

Importance, present status and scope of agro forestry in India, classification of agro forestry systems, silvi pastoral systems, silvi horti pastoral systems. wind breaks and shelter belts, Alley cropping

multipurpose tree species, and NFTS in agro forestry and their management, waste lands and their improvement.

Propagation of forest plants and their aftercare, social-forestry programme Constraints in obtaining people's participation, Development of trees in social forestry systems. Importance and scope of ornamental gardening, history of gardening. Different styles of gardens and their features, propagation of ornamental plants, planning and maintenance of lawns, hedges, shrubs, standards topiaries, rock gardens and borders. Importance garden adornments (Arches, pergola, etc.) conservatory, cultivation of annuals, roses, marigold, chrysanthemum, gladiolus, gaillardia, tuberose, canna and dahlia, Care and maintenance of important, house plants, Planning and planting of avenues, beautification of school, villages, parks and public gardens.

Importance of post harvest technology in horticultural crops, Maturity index, harvesting and grading of fruits and vegetables, Pre harvest factors affecting quality, factors responsible for deterioration of horticultural produce. Post harvest treatments of horticultural crops, methods of storage for local market and for export, pre cooling and pre storage treatments.

Importance and scope of fruit and vegetables preservation industry in India. Principles of preservation of fruits and vegetables, methods of preservation of preserved products such as, squashes, syrups, jam, jelly, preserve, pickle, tomato ketchup. Brief account of canning, freezing and dehydration.

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