

**Scheme of Examination:**

- Screening Test will be objective type (MCQ) in 4 different series.
  - Full marks: 100
  - Number of questions: 100, each carrying 1 mark of accepted syllabus.
  - Duration: 1 hour 30 minutes

N.B.: There will be negative marking for wrong answers as per norms.

**Syllabus of Examination:**

**Scope and importance of Horticulture and horticultural crops:** Area and Production – Imports and Exports – Nutritive value of Horticultural crops – Agro Climatic Zones of India and West Bengal in relation to Horticultural and Medicinal Plants crops.

**Scope for Horticulture Development in West Bengal (especially Hilly region):** Factors limiting Horticultural crop production – Climate (Rainfall, Temperature, Light Humidity, Sunshine) – Soil (pH, EC, Soil Depth) – Crops suitable for different soils – water (Quality and quantity) – Drainage.


**Manures and Manuring:** Organic and inorganic manures – Bio fertilizers – Fertigation – Bio Agents.

**Essential Elements:** Functions – Deficiency symptoms – Fertilizer schedule – Time and method of application. Physiological disorders – Control measures.

**Irrigation:** Water requirement of different Horticultural crops – various irrigation methods including Drip, Sprinkler, Fogging, Misting and Water Stress on Horticultural crops, medicinal and aromatic plants and plantation crops – Plasticulture – Mulching types.

**Training and Pruning:** Principles and Methods – Canopy Architecture – Planting systems and Planting densities.

**Flowering:** Pollination – Fruit set – Fruit drop – Causes and Prevention – Unfruitfulness associated with External and Internal factors.

**Maturity:** Harvesting – Pre and Post Harvest Handling – Processing and Preservation.

Role of plant Growth regulators and their commercial applications in the Horticulture.


**Fruit Crops:** Kiwi, Peach, Pear, Plum, Nectarine, Strawberry, Apple, Walnut, Berries, Hazelnut, Chestnut, Avocado, Fig, minor fruits – their propagation, scope of commercialization in West Bengal.

**Spice Crops:** cardamom, Ginger, Turmeric, Saffron, Black Pepper, etc.

**Plantation Crops:** Cinchona, Tea, Coffee, Rubber, Olive etc. History of Cinchona Cultivation in India and in the world, its role in World Wars, present state in India – Darjeeling tea, production, challenges and future scope of continuous cultivation – scope of coffee production in West Bengal, present scenario and future possibilities, initiative of GTA to make a brand name “Kalimpong Coffee” – commercial cultivation of rubber in West Bengal, scope of processing to make finish products – scope of cultivation in West Bengal.
**Vegetable crops:** Tomato, Brinjal, Bhendi, Chilli, Cucumber, Gourds, Pumpkin, Peas, Beans, Potato, tuber crops, Carrot Radish, Cauliflower, Cabbage etc. Exotic vegetable – Broccoli, Brussels, Sprouts, Asparagus, Celery, Spinach etc.

**Flower Crops:** Cymbidium and Tropical Orchids, Chrysanthemeum, Marigold, Gerbera, Gladiolus, Anthurium, Carnation, Staticie, etc.

**Medicinal Plants:** Ipecac, Chirata, Taxus baccata, cinchona and other commercially important Medicinal plants like Ashwagandha, Swertia chirata, Rauvolfia serpentina, Valeriana jatamansi, Ocimum sanctum, Artemisia annua, Gymnema sylvestre, Catharanthus roseus, Piper longum, Withania somnifera, Andrographis paniculata, costussa seciosus, Digitalis purpurea, Stevia etc. Medicinal plants grown and used in West Bengal, commercially grown and marketed medicinal plants of Bengal, list of threatened, rare and endangered medicinal plants of Bengal, scope of commercialization of medicinal plants as alternate crop in Bengal.

**Aromatic Plants:** Commercially important aromatic plants notified by Govt. of India like Lemongrass, Citronella, Patchouli, Vetiver, Artemisia annua, Geranium, Minot, Ocimum Eucalyptus, Sandalwood, Lavender, etc.commercially grown and marketed aromatic plants of Bengal, list of threatened, rare and endangered aromatic plants of Bengal, scope of commercialization of aromatic plants as alternate crop in Bengal.


**Precision farming:** Definition and implementation in Horticultural crops. Principles and practices of Integrated Farming System. Cultivation of Mushroom.

**Seed science and technology:** Type of seeds concept of seed quality and factors affecting it. Role and goal of seed technology. Generation system of seed multiplication, classes of seed. Different organization involve in seed production and certification. Principles of seed production, seed certification and processing. Seed testing method (Germination test, physical purity test, moisture test, TZ test etc) principles and methods of seeds storage, IPR and its utilization, PPVR and FR technique of seed production in important vegetable (Tomato, Brinjal, onion, cucurbits, root vegetable etc).
