

## **DETAILED SYLLANBUS FOR THE POST OF FIELD SUPERVISOR GR.II**

### **STATE FARMING CORPORATION OF KERALA LIMITED**

**(Cat.No. 299/2021)**

**(Total Marks – 100)**

#### **Module1 : Introductory Agriculture. (12 Marks)**

##### 1.1. History of Agricultural development in India

Definition of Agriculture, Milestones of Agricultural development in India, Establishment of Department of Agriculture and Indian Agricultural Research Institute, Green revolution, White revolution, Yellow revolution, Blue revolution etc.

##### 1.2. Agriculture in Kerala.

Area, Production and productivity of major crops in Kerala. Milestones of Agricultural development in Kerala, Establishment of Kerala Agricultural University, Important Agricultural institutions in Kerala.

##### 1.3. Agriculture and its branches.

Plant Science (Agronomy, Horticulture, Forestry, Entomology, Soil Science, Plant Pathology, Pomology, Olericulture, Silviculture) and Plant Science (Animal Husbandry, Poultry, Fisheries), Agronomic classification of crops.

#### **Module 2: Agri Meteorology (11- Marks)**

2.1. Weather and Climate, Macroclimate, Microclimate, Monsoons of Kerala, Agricultural seasons of Kerala-( Virippu, Mundakan, Puncha), Njattuvela, Agricultural seasons of India-(Kharif, Rabi, Zaid).

##### 2.2. Weather Elements

Atmospheric Temperature, Atmospheric Pressure, Atmospheric Humidity, Wind, Sunlight/ cloudiness, Duration of light, Intensity of light, Precipitation, weather forecasting, Types of forecasting.

##### 2.3. Instruments to measure weather elements

Barometer, hygrometer, wind vane, cup anemometer, luxmeter, pyranometer, sunshine recorder , rain gauge, stevenson's screen, soil thermometer, Pan evaporimeter etc., Agri meteorological observatory, Automatic instruments, Automatic Weather Station (AWS),Radiosonde, Radar, Weather satellite, Remote sensing, GIS.

**Module 3: Soil Health Management.****(11-Marks)****3.1. Soil Science**

Soil profile, Soil components, Soil forming materials, Soil forming process, Soil separates, Soil acidity, Problem soils, Soils of Kerala, Soil health card, Properties of soil (soil structure, soil texture, soil colour, soil density etc.), soil water, soil moisture constants- water holding capacity, saturation, field capacity, permanent wilting point etc.

**3.2. Soil erosion and soil and water conservation**

Geological and accelerated erosion, Different forms of water and wind erosion, Different soil and water conservation measures.

**3.3. Tillage**

Objectives of tillage, Types of tillage, Tillage implements, modern concepts of tillage, small farm machinery.

**Module 4 : Plant nutrition.****(11-Marks)****4.1. Essential elements**

Role of essential elements, Deficiency symptoms and control of deficiencies, Symptoms under excess application of nutrients, luxury consumption.

**4.2. Manures and fertilizers**

Organic manures, aerobic and anaerobic composting, vermicomposting, coir pith composting, green manuring, Inorganic fertilizers, Biofertilizers, Methods of fertilizer application, Fertilizer calculation, Integrated nutrient management, KAU fertulator, Methods of soil fertility evaluation, Soil sampling and testing, sustainable agriculture, organic farming.

**Module 5: Irrigation and farming systems.****(11-Marks)**

Methods of irrigation-surface, sub surface and pressurized methods. Types of drip and sprinkler irrigation. Indigenous methods of irrigation, fertigation, fertigation equipments, rain water harvesting, different farming systems and cropping systems, precision farming, green house cultivation, soil less cultivation-aquaponics, hydroponics, aeroponics etc.

**Module 6: Plant Propagation.****(11-Marks)**

Sexual and asexual propagation, qualities of good seed, seed germination testing methods, vegetative propagation methods- layering, budding, grafting, tissue culture, vegetable grafting.

**Module 7: Cultivation practices of crops in Kerala. (11-Marks)**

Cultivation practices of crops grown in Kerala-

Rice, Cowpea, Tubers, Rubber, Cashew, Coconut, Spices and condiments, Beverages and stimulants, Cucurbitaceous vegetables, solanaceous vegetables, cool season vegetables, Fruits, ornamental plants, medicinal and aromatic plants, fodder crops, green manure crops.

**Module 8: Insect Pests and Diseases of crops in Kerala. (11-Marks)**

Insect pests and diseases affecting the crops grown in Kerala-

Rice, Cowpea, Tubers, Rubber, Cashew, Coconut, Spices and condiments, Beverages and stimulants, Cucurbitaceous vegetables, solanaceous vegetables, cool season vegetables, Fruits, ornamental plants, medicinal and aromatic plants, fodder crops, green manure crops.

**Module 9: Crop pest management.****(11-Marks)**

9.1. classification of insects and pests, structure of insect, metamorphosis, disease causing organisms, important disease symptoms, classification of weeds, Important weeds found in Kerala, classification of pesticides, classification of herbicides,

9.2. Different methods of Insect pest , disease and weed control

Natural control, prophylactic control, artificial control methods – cultural control ,mechanical control, physical control, legal control, biological control, macrobial and microbial control, chemical control., Insecticide formulations, IPM, IDM.

9.3. insecticides, fungicides and herbicides available in the market, toxicity levels of pesticides, banned pesticides

**NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.**

