

**FURTHER DETAILS REGARDING MAIN TOPICS OF
PROGRAMME NO. 02/2016 (Item No. 12)**

FIELD ASSISTANT

PLANTATION CORPORATION OF KERALA LIMITED

(CATEGORY No. 560/2014)

Part I: Agronomy

Agriculture as an art, science and business of crop production - Branches of agriculture - Origin of agriculture- Diffusion of crops - Subsistence and commercial agriculture- agriculture- Hunger and food security- Agriculture systems in the world -Basic elements of crop production; Factors affecting crop production: Agricultural seasons in India and Kerala - History of agricultural development - Ancient India - Agriculture in civilization era- Chronology of agricultural technology development in India - Meaning, definition and scope of agronomy. Crop yield contributing characters-harvest index- Seed -- definition - characteristics of good quality seed Tillage-definition- objectives types of tillage-tillage implements tillage - characteristics of good tillage - Soil productivity and fertility- Crop nutrition . Cropping systems prevalent in Kerala - Rice based cropping system- Coconut based multi tier cropping system-crop cafeteria for multiple cropping- Tapioca based cropping system-Homestead farming in Kerala

Part II a & b: Plant Breeding and Plant Physiology

Aims, objectives and importance of Plant Breeding; Mendel's laws of inheritance .Modes of reproduction. Sexual. Asexual and their classification; Modes of pollination, genetic consequences, differences between self and cross pollinated crops; Methods of breeding - introduction and acclimatization. Selection. Mass selection. Hybridization. Introduction, importance in agriculture. Seed physiology, seed structures, morphological, physiological and biochemical changes during seed development, physiological maturity - morphological and physiological changes associated with physiological maturity in crop, harvestable maturity, seed viability and vigour, factors affecting seed viability and vigour. Methods of testing seed viability and vigour, germination, utilization of seed reserves during seed germination, morphological, physiological and biochemical changes during seed germination, factors affecting seed germination, growth and development

Part III: Soil Science

Soil - Pedological and edaphological concepts -origin of the earth - earth's crust -composition. Rocks and minerals. Weathering - soil formation - factors and processes -components of soils -soil profile. Soil physical properties - soil texture

- textural classes - particle size analysis. Soil structure Elementary knowledge of soil classification. Soils of India - geological formations - characterization of soils of Kerala.

Soil water - retention and potentials - soil moisture constants - movement of soil water - infiltration - percolation - permeability) - drainage - methods of determination of soil moisture. Thermal properties of soils - soil temperature - soil air - gaseous exchange - influence of soil temperature and air on plant growth.

Part IV: Plant protection

IPM- introduction, importance, concepts, principles. Tools of IPM - host plant resistance, cultural, mechanical, physical, legislative, biological methods - biocontrol agents- parasites and predators - types of parasitism, mass multiplication techniques. Important groups of microorganisms used in pest control - bacteria, viruses, entomopathogenic nematodes and fungi - mass multiplication techniques. Chemical control - importance, hazards and limitations. Plant Disease Epidemiology. Forecasting Remote sensing General principles of plant diseases management -Importance - Avoidance, exclusion . protection - Plant Quarantine and Inspection -Quarantine Rules and Regulations .Cultural methods Distribution, biology, nature and symptoms and management strategies of insect pests and diseases of rice, wheat, coconut, arecanut. rubber, cashew, mango, banana, pulses, brinjal. Bhindi, tomato, amaranthus, chillies, tapioca, potato, sweet potato, colacasia, pepper, cardamom, ginger, turmeric, coffee, tea, ornamentals and medicinal plants.

Part V: Plantation Industry

Plantation crops - introduction - importance area, production - origin, distribution -botany, varieties - climate, soil, site selection - propagation, production of quality planting materials and hybrids - nursery management layout, planting, aftercare irrigation, manuring - stage of harvest, harvesting, yield and uses of coconut, arecanut. oil palm, rubber, cashew, pepper, cardamom, nutmeg, clove, cinnamon, aineer, turmeric, tea. coffee and cocoa.

Part VI: General Knowledge, Current Affairs & Renaissance in Kerala

Salient Features of Indian Constitution

Salient features of the Constitution - Preamble- Its significance and its place in the interpretation of the Constitution.

Fundamental Rights - Directive Principles of State Policy - Relation between Fundamental Rights and Directive Principles - Fundamental Duties.

Executive - Legislature - Judiciary - Both at Union and State Level. - Other Constitutional Authorities.

Centre-State Relations - Legislative - Administrative and Financial.

Services under the Union and the States.

Emergency Provisions.

Amendment Provisions of the Constitution.

Social Welfare Legislations and Programmes

Social Service Legislations like Right to Information Act, Prevention of atrocities against

Women & Children, Food Security Act, Environmental Acts etc. and Social Welfare Programmes like Employment Guarantee Programme, Organ and Blood Donation etc.

RENAISSANCE IN KERALA

Towards A New Society

Introduction to English education - various missionary organisations and their functioning- founding of educational institutions, factories, printing press etc.

Efforts To Reform The Society

(A) Socio-Religious reform Movements

SNDP Yogam, Nair Service Society, Yogakshema Sabha, Sadhu Jana Paripalana Sangham, Vaala Samudaya Parishkarani Sabha, Samathwa Samajam, Islam Dharma Paripalana Sangham, Prathyaksha Raksha Daiva Sabha, Sahodara Prasthanam etc.

(B) Struggles and Social Revolts

Upper cloth revolts, Channar agitation, Vaikom Sathyagraha, Guruvayoor Sathyagraha, Paliyam Sathyagraha, Kuttamkulam Sathyagraha, Temple Entry Proclamation, Temple Entry Act, Malyalee Memorial, Ezhava Memorial etc.

Malabar riots, Civil Disobedience Movement, Abstention movement etc.

Role Of Press In Renaissance

Malayalee, Swadeshabhimani, Vivekodayam, Mithavadi, Swaraj, Malayala Manorama, Bhashaposhini, Mathnubhoomi, Kerala Kaumudi, Samadarsi, Kesari, Al-Ameen, Prabhatham, Yukthivadi, etc

Awakening Through Literature

Novel, Drama, Poetry, *Purogamana Sahithya Prasthanam, Nataka Prashtanam*, Library movement etc

Women And Social Change

Parvathi Nenmenimangalam, Arya Pallam, A V Kuttimalu Amma, Lalitha Prabhu, Akkamma Cheriyan, Anna Chandi, Lalithambika Antharjanam and others

Leaders Of Renaissance

Thycaud Ayya Vaikundar, Sree Narayana Guru, Ayyan Kali, Chattampi Swamikal, Brahmananda Sivayogi, Vagbhadananda, Poikayil Yohannan (Kumara Guru) Dr Palpu, Palakkunnath Abraham Malpan, Mampuram Thangal, Sahodaran Ayyappan, Pandit K P Karuppan, Pampadi John Joseph, Mannathu Padmanabhan, V T Bhattathirippad, Vakkom Abdul Khadar Maulavi, Makthi Thangal, Blessed Elias Kuriakose Chavara, Barrister G P Pillai, TK Madhavan, Moorkoth Kumaran, C. Krishnan, K P Kesava Menon, Dr. Ayyathan Gopalan, C V Kunjuraman, Kuroor Neelakantan Namboothiripad, Velukkutty Arayan, K P Vellon, P K Chathan Master, K Kelappan, P. Krishna Pillai, A K Gopalan, T R Krishnaswami Iyer, C Kesavan, Swami Ananda Theerthan, M C Joseph, Kuttippuzha Krishnapillai and others

Literary Figures

Kodungallur Kunhikkuttan Thampuran, KeralaVarma Valiyakoyi Thampuran, Kandathil Varghese Mappila. Kumaran Asan, Vallathol Narayana Menon, Ulloor S Parameswara Iyer, G Sankara Kurup, Changampuzha Krishna Pillai, Chandu Menon, Vaikom Muhammad Basheer. Kesav Dev, Thakazhi Sivasankara Pillai, Ponkunnam Varky, S K Pottakkad and others

GENERAL KNOWLEDGE AND CURRENT AFFAIRS

General Knowledge and Current Affairs

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.