

**FURTHER DETAILS REGARDING MAIN TOPICS OF
PROGRAMME NO. 09/2015 (Item No. 9)**

LECTURER IN FOOD SCIENCE

COLLEGIATE EDUCATION

(CATEGORY Nos. 621/2012)

MODULE I: PROXIMATE COMPOSITION OF FOODS

Carbohydrates: Classification, structure, properties dietary fiber, Browning and its prevention

Proteins: Structure, Classification of amino acids, properties

Fats & Oils: Classification, Chemical structure, Properties, Rancidity, Extraction, Refining, Hydrogenation

Vitamins & Minerals: Chemistry, classification, functions, sources, requirements, deficiency

Water: Importance, distribution in body, Chemical & Physical properties, Functions

MODULE II: CEREALS, PULSES, NUTS AND OIL SEEDS

Cereals: Structure, composition, Nutritive value, processing

Milling, parboiling of rice, Baking qualities, Manufacture of leavened products, Rice products

Pulses: Composition, ant nutritional factors, germination milling

Nuts & Oil seeds: Composition processing, Uses of oilseed meal

Protein isolates, Texturised vegetable protein

MODULE III: FRUITS & VEGETABLES AND PLANTATION PRODUCTS

Fruits & Vegetables: Composition, classification, pigments, nutritive value, changes during processing

Spices – classification, composition processing of major spices, spice oils oleoresins

Coffee, tea, cocoa: composition, brief manufacturing of coffee, tea, cocoa

Fermented and unfermented beverages

MODULE IV: MEAT, FISH, EGG, MILK

Types, composition, nutritive value and preservation techniques

Meat & Fish: Structure of muscle, nutritive value, factors affecting tenderness, changes during cooking, postmortem changes, meat and fish byproducts

Eggs: Structure, composition, nutritive value, grading, changes during storage egg quality

Milk & Milk products: Processing of milk, ghee, butter, cheese, yoghurt, ice cream

MODULE V: FOOD PRESERVATION, SPOILAGE AND HYGIENE

Preservation methods: High temperature, Low temperature, chemical preservatives, water activity, food irradiation, fermentation

Food spoilage: Sources of contamination, factors responsible for spoilage, factors affecting kinds and number of micro organisms in food. Chemical changes due to spoilage

Hygiene: General principle, personnel hygiene, food handling habits

Sanitation: Physical chemical agents, effective of control of micro organism, sanitary aspects of water supply

MODULE VI: FOOD SAFETY AND FOOD LAWS

Concept of food safety, food adulteration, food additives

Food laws & regulations – National, international, governing bodies, ISO, HACCP

MODULE VII: RECENT TRENDS

Active packaging, modified and controlled atmospheric storage, pulsed electric field, microwave heating, high hydrostatic pressure, oscillating magnetic field, GM foods, functional foods, nutraceuticals, prebiotics, probiotics, Fortification, Hurdle technology

MODULE VIII: RESEARCH METHODOLOGY/TEACHING APTITUDE

I. TEACHING APTITUDE

- Teaching: Nature, objectives, characteristics and basic requirements;
- Learner's characteristics;
- Factors affecting teaching;
- Methods of teaching;
- Teaching aids;
- Evaluation systems.

II. RESEARCH APTITUDE

- Research: Meaning, Characteristics and types;
- Steps of research;
- Methods of research;
- Research Ethics;
- Paper, article, workshop, seminar, conference and symposium;
- Thesis writing: its characteristics and format.

MODULE IX A. 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.

MODULE IX B: 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.

MODULE X A: 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, AI-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 Cherian, 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 Chaavra, 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 Varghesc 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

MODULE X B: 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.