

**FURTHER DETAILS REGARDING MAIN TOPICS OF
PROGRAMME NO. 05/2018/ONLINE (Item No.3)**

**VOCATIONAL TEACHER IN DAIRYING
(MILK PRODUCTS)**

VOCATIONAL HIGHER SECONDARY EDUCATION

(CATEGORY NO. 550/2014)

PART I

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, Swadeshabhmani, 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

(P.T.O.)

Parvathi Nenmenimangalam, Arya Pallam, A V Kuttimalu Amma, Lalith 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 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 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

PART II

Milk Production

Management of milking cows-pregnant cows, heifers and calves-care at calving-Feeding, classification of feed stuffs, computation of ration-Breeding-breeds, cross breeding-artificial insemination-Housing of cattle-Signs of health, common diseases, measures for control-Routine operations in the farm-Clean milk production.Agronomic practices-Farming systems with forage crops – multiple cropping,intercropping, mixed cropping, relay

cropping , crop rotation-Fodder production scenario in Kerala-Fodder grasses and legumes-Pasture and grassland management-Forage preservation.

Milk processing

Filtration, clarification homogenisation, standardisation, pasteurisation, sterilization, cleaning and sanitization-Materials and sanitary features of the dairy equipments, sanitary pumps - Evaporation: its basic principles – Boilers – different evaporators-Drying:Principle of drying, spray drier and vacuum driers-Basic refrigeration cycles and concepts:Psychrometry.

Technology of milk products

Market milk industry in India and abroad – effect of pooling and storing on microbiological quality of refrigerated milk-Special milks – toned, double toned, reconstituted, recombined, flavoured, homogenized milk, sterilized milk and lactose hydrolyzed milk. Definition, status and scope of traditional milk products in India-their manufacturing practises, compositional profile and mechanization of manufacturing process including packaging – Technology of butter manufacture – Batch and continuous methods, over-run in butter, control of fat loses in buttermilk, Butter making equipment-Cheese technology-accelerated ripening-Types of ice cream freezers. Cleaning and sanitation of ice-cream plant- plant hygiene – cheese technology – Modern packaging Techniques – Vacuum packaging, Modified atmosphere packaging (MAP), Eco-friendly packaging, Aseptic packaging, coding and labelling of food packages – Aseptic packaging Smart packages, recent advances in packaging technology – By products technology

Chemistry of milk and milk products

Milk composition – Definition – factors affecting composition of milk – Physico chemical properties-acidity, specific gravity, adulterants, preservation and neutralisation – Platform tests, Chemistry of cheese – physicochemical changes during ripening – Milk Powder, Structure and properties, changes during storage. Lactose crystallization, Chemistry of milk products-Spoilage of milk and milk products Ice cream, Indigenous products and byproducts-whey, casein, cream, Butter, Ghee, Condensed and dried milk.

Microbiology of milk and milk products

Morphological and biochemical characteristics of important groups and their classification; their significance-Microbiological changes in bulk refrigerated raw milk;Impact of milking, chilling, bactofugation and

membrane filtration on microbial quality-Spoilage of milk and milk products-Mastitic milk:organisms causing mastitis in milk, somatic cell count, technological significance and public health significance-Fermented milk products-Starter culture technology, their preservation and quality evaluation. Milk borne pathogens, their detection-Quality assessment of milk and milk products.

Dairy plant management

Plant operations-efficiency factors, losses. Financial and managerial efficiency, Plant maintenance – Preventive maintenance and break down maintenance. Environmental pollution Effluent treatment – Types of effluent treatment plant and degree of treatment of waste.Control of Environmental pollution through law. Pollution control rules and regulations.Composting of waste.

Dairy extension

Its relevance, Dairy Development programmes in Kerala- KCMMF, APCOS, Dairy Development department – Account maintenance in a primary society, Operation Flood-Conceptional orientation on PRA, RRA, IVLP/TAR, ATMA, ATIC, PTD Commercialization of ideas and innovations. Government schemes for entrepreneurship. Development.

Quality Assurance

Concepts of quality control, quality assurance and food safety – Good Manufacturing Practices (GMP), pre-requisite Programs, HACCP-Safe process design and operation – good practices for food handlers-concepts of hygiene and sanitation – Concepts of Quality Management System (QMS) – ISO 22000:2005. FSMS and their application in milk production and processing – Risk analysis – Importance of chemical quality control in dairy – Sampling procedures – Good Laboratory Practices (GLP). Contaminants in milk – residues and pathogens, their detection-Risk analysis Quality standards. National and International food regulatory standards, FSSAI, Codex.

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.