

**FURTHER DETAILS REGARDING MAIN TOPICS OF
PROGRAMME NO. 12/2015 (Item No. 21)**

CHEMIST GRADE II

HEALTH SERVICES

(CATEGORY Nos. 554/2014)

Part I

Natural products: Definition, classification and brief chemistry of alkaloids, glycosides, terpenoids, volatile oils, tannins, resins etc.

Biological source, constituents, identification tests and pharmacological uses of Cinchona, cinnamon, castor oil, cardamom, ginger, opium, clove, peppermint oil, honey, fennel and nutmeg .

Part II

Chemistry in Everyday life: Definition, classification, brief chemistry, mechanism of action and therapeutic uses of analgesics, antipyretics, anti-inflammatory agents, hypnotics and sedatives, narcotics and psychotropic drugs, anaesthetics, antiseptics and disinfectants, antihistamines, antihypertensive drugs, anti-diabetic drugs, cosmetics. Dyes-different types and examples.

Part III

Biomolecules: Definition, classification, brief chemistry, qualitative tests and metabolism of carbohydrate, protein and lipids. Deficiency diseases and diseases related to their metabolism. Classification of amino acids. Brief chemistry and role of vitamins and coenzymes. Enzymes, Minerals, Hormones, DNA, RNA.

Part IV

Quality control of Pharmaceuticals: Sources of impurities in Pharmaceuticals, Purification methods of Pharmaceuticals, test for purity, limit tests for arsenic, lead, sulphate, chloride, iron and heavy metals.

Part V

General Chemistry Stoichiometry, Chemical bonding, Periodic properties, States of matter, Solutions, chemical kinetics, Thermodynamics, Electro chemistry.

Part VI

Organic chemistry Hydrocarbons, cycloalkanes, physical properties, functional groups, IUPAC nomenclature, concept of aromaticity, Stereochemistry of organic compounds.

Part VII

Environmental Chemistry Pollution- soil, water, air pollutants. Greenhouse effect, acid rain, ozone depletion, industrial and nuclear waste, Polymers- different types, examples and effect on environment. Soaps and detergents, Water treatment, Green chemistry

Part VIII

Analytical chemistry Acids and bases, buffers, water analysis, qualitative analysis of anions and systematic analysis of cations. Principle of titrations- acidimetry, redox, Complexometry, precipitation titrations. Principle of UV-Visible spectroscopy, IR spectroscopy, NMR, mass spectrometry.

Part IX - 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.