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CHEMIST GRADE II HEALTH SERVICES(CATEGORY NOS.554/2014) SYLLABUS

#### Part I

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

Biological source, constituents, identification tests and pharamacological 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, anaestetics, 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: Source 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 envitonment,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 organizations 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, Ishlam Dharma Paripalana Sangham, Prathyaksha Raksha Daiva Sabha, Sahodara Prasthanam etc.

## (B)Struggles and Social Revolts

Upper clothrevolts. Channaragitation, Vaikom Sathygraha, Guruvayoor Sathyagraha, Paliyam Sathyagraha. Kuttamkulam Sathyagraha, Temple Entry Proclamation, Temple Entry Act. Malayalee Memorial, Ezhava Memorial etc.

Malabar riots, Civil Disobedience Movement, Abstention movement etc.

### Role of Press in Renaissance

Malayalee, Swadeshabhimani, Vivekodayam, Mithavadi, Swaraj, Malayala Manorama, Bhashapohini, Mathrubhoomi, Kerala Kanmudi, Samadarsi, Kesari, Al-Ameen, Prabhatham, Yukthivadi, etc.

## Awakening Through Literature

Novel, Drama, Poetry, Purogamana Sahithya Prasthanam, Natoka 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,Palakkunath 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,T K 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, Kerala Varma Valiyakoyi Thampuran, Kandathil Varghese Mappila. Kumaran Asan, Vallathol Narayana Menon, Ulloor S Parameswaralyer, G

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SankaraKurup,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