

**FURTHER DETAILS REGARDING MAIN TOPICS OF  
PROGRAMME NO. 03/2018/ONLINE (Item No.5,6)**

**SENIOR LECTURER IN TUBERCULOSIS AND RESPIRATORY  
MEDICINE**

**(PULMONARY MEDICINE)**

**(NCA NOTIFICATION)**

**(CATEGORY No.200/17,290/17)**

**Structure & Functions of Respiratory System, Cardiovascular system and mediastinum.**

- 1- Anatomy
- 2- Development & aging of respiratory system
- 3- Physiology
- 4- Pathophysiology
- 5- Microbiology
- 6- Genetics
- 7- Pharmacology
- 8- Pathology
- 9- Immunology & defence mechanisms
- 10- Molecular biology
- 11- Biochemistry

**Airways**

- 1-Asthma
- 2-Acute Bronchitis
- 3-Chronic bronchitis/ COPD
- 4-Bronchiolitis
- 5-Bronchiectasis
- 6-Airway Stenosis, megaly & malacia
- 7-Tracheoesophageal Fistula
- 8-Upper airway disease
- 9-Vocal cord Dysfunction
- 10-FB aspiration
- 11-GERD

**Thoracic Tumours**

- 1-Lung cancer
- 2-Metastatic Pulmonary tumours
- 3-Mesothelioma
- 4-Metastatic & Other pleural tumours
- 5-Benign intrathoracic tumours
- 6-Mediastinal tumours
- 7-Chest wall tumours
- 8-Sarcoma
- 9-Lymphoma and related diseases.

**Non TB Respiratory Infections**

- 1- Upper Respiratory Infections
- 2- Lower respiratory infections
- 3- Community acquired pneumonia

- 4- Nosocomial pneumonia
- 5- Pneumonia in the immunocompromised host
- 6- Other pneumonias
- 7- Parapneumonic effusion & Empyema
- 8- Lung abscess
- 9- Fungal infections
- 10- Parasitic infections
- 11- Epidemic Viral infections

### **Tuberculosis**

- 1- Pulmonary TB
- 2- Extrapulmonary TB
- 3- TB in the immunocompromised host
- 4- Latent TB infections
- 5- Non tuberculous mycobacterial diseases
- 6- Drug resistant Tuberculosis
- 7- Tuberculosis control programme

### **Pulmonary Vascular diseases**

- 1- Pulmonary Embolism
- 2- Pulmonary edema
- 3- Primary Pulmonary Hypertension
- 4- Secondary Pulmonary Hypertension, Cor Pulmonale
- 5- Vasculitis and Diffuse pulmonary hemorrhage
- 6- Abnormal A-V communication
- 7- Hepatopulmonary Syndrome

### **Occupational and Environmental Diseases**

- 1- Occupational Asthma
- 2- Reactive airway dysfunction syndrome
- 3- Pneumoconiosis and Asbestos related Disease
- 4- Hypersensitivity pneumonitis
- 5- Dust and Toxic gas inhalation disease
- 6- Indoor pollution related diseases
- 7- Outdoor pollution related disease
- 8- Smoking related disease
- 9- High altitude Disease
- 10- Diving related disease, Aviation and sports related pulmonary disorders.
11. Disability evaluation and compensation.

### **Diffuse Parenchymal (interstitial) Lung Diseases**

- 1- Sarcoidosis
- 2- Idiopathic Interstitial pneumonias including Idiopathic Pulmonary Fibrosis (IPF)  
NSIP, COP, AIP, RB-ILD, DIP, LIP
- 3- Cryptogenic organizing Pneumonia of unknown etiology/ Bronchiolitis obliterans  
organizing Pneumonia (BOOP)
- 4- Interstitial lung diseases specific to Infancy

## **Latrogenic diseases**

- 1- Drug induced lung diseases
- 2- Complications of invasive procedures
- 3- Radiation induced Disease

## **Acute Injury**

- 1- Inhalation Lung Injury
- 2- Traumatic thoracic injury

## **Respiratory Failure**

- 1- Acute Lung Injury and Acute Respiratory Distress Syndrome
- 2- Obstructive Lung disease
- 3- Neuromuscular Disease
- 4- Chest Wall Diseases
- 5- Other restrictive lung Diseases

## **Pleural Diseases**

- 1- Pleurisy
- 2- Pleural Effusion
- 3- Chylothorax
- 4- Haemothorax
- 5- Fibrothorax
- 6- Pneumothorax

## **Diseases of the chest wall and respiratory muscles including the diaphragm**

- 1- Chest wall deformities
- 2- Neuromuscular disorders
- 3- Phrenic Nerve Palsy
- 4- Diaphragmatic hernia

## **Mediastinal Diseases excluding tumours**

- 1- Mediastinitis
- 2- Mediastinal Fibrosis
- 3- Pneumomediastinum

## **Pleuropulmonary manifestations of systemic/ Extrapulmonary disorders**

- 1- Collagen vascular disease
- 2- Cardiac disease

- 3 - Abdominal disease
- 4- Haematological disease
- 5- Obesity
- 6- Hyperventilation syndrome

### **Genetic and Developmental Disorders**

- 1- Cystic Fibrosis
- 2- Primary Ciliary Dyskinesia
- 3- Alpha-1 antitrypsin deficiency
- 4- Agenesis, Aplasia and Hypoplasia
- 5- Sequestration

### **Respiratory Diseases and Pregnancy**

- 1- Asthma
- 2- Cystic fibrosis
- 3- Tuberculosis
- 4- Sarcoidosis
- 5- Restrictive Lung diseases
- 6- Pregnancy induced respiratory diseases

### **Allergic Diseases ( IgE mediated)**

- 1- Upper airway diseases
- 2- Asthma
- 3- Allergic Bronchopulmonary aspergillosis
- 4- Anaphylaxis

### **Eosinophilic Diseases**

- 1- Non-asthmatic eosinophilic bronchitis
- 2- Acute and chronic eosinophilic pneumonia
- 3- Hypereosinophilic syndrome
- 4- Churg-strauss syndrome

### **Sleep related disorders**

- 1- Obstructive sleep apnoea
- 2- Central sleep apnoea
- 3- Upper airway resistance syndrome
- 4- Obesity hypoventilation syndrome

### **Immunodeficiency disorders**

- 1- Congenital immunodeficiency syndrome
- 2- Acquired immunodeficiency syndrome
- 3- HIV related diseases
- 4- Graft versus host diseases
- 5- Post-transplantation immunodeficiency

## **Orphan Lung diseases**

- 1- Langerhans cell histiocytosis
- 2- Lymphangiomyomatosis
- 3- Pulmonary alveolar proteinosis
- 4- Amyloidosis

## **Symptoms and Signs**

- 1- Dyspnoea
- 2- Wheeze
- 3- Stridor
- 4- Hoarseness
- 5- Cough
- 6- Sputum production
- 7- Chest Pain
- 8- Haemoptysis
- 9- Snoring
- 10- General symptoms of disease including fever, weight loss, oedema, Nocturia and Day time somnolence
- 11- Abnormal findings on inspection including cyanosis, abnormal breathing patterns, finger clubbing, chest wall deformities, superior vena cava syndrome and Horner's syndrome
- 12- Abnormal findings on palpation and percussion
- 13- Abnormal findings on auscultation

## **Pulmonary Function Testing**

- 1- Static and Dynamic Lung Volumes- Interpretation and Performance
- 2- Body Plethysmography – Interpretation
- 3- Gas transfer- Interpretation
- 4- Blood gas assessment and Oximetry-Interpretation and Performance
- 5- Bronchial provocation testing- Interpretation and performance
- 6- Cardiopulmonary exercise testing- Interpretation and performance
- 7- Assessment of respiratory mechanics- Interpretation
- 8- Compliance measurements - Interpretation
- 9- Respiratory muscle assessment – Interpretation
- 10- Ventilation perfusion measurement – Interpretation
- 11- Shunt measurement – Interpretation
- 12- Sleep studies- Interpretation and performance
- 13- Measurement of regulation of ventilation- Interpretation

## **Other procedures**

- 1- Blood test and serology relevant to Respiratory medicine
- 2- Analysis of exhaled breath components including NO,CO and breath condensate
- 3- Sputum induction
- 4- Sputum analysis
- 5- Tuberculin skin testing
- 6- Allergy skin testing
- 7- Thoracic ultrasound imaging

- 8- Thoracentesis
- 9- Closed needle pleural biopsy
- 10- Medical thoracoscopy
- 11- Flexible bronchoscopy
- 12- Transbronchial lung biopsy
- 13- Transbronchial needle aspiration
- 14- Endobronchial ultrasound
- 15- Bronchalveolar lavage
- 16- Bronchography
- 17- Rigid bronchoscopy
- 18- Interventional bronchoscopic technique including fluorescent bronchoscopy, brachytherapy, endobronchial radiotherapy, afterloading laser and electrocoagulation cryotherapy, Photodynamic therapy and airway stents.
- 19- Transthoracic needle aspiration & biopsy
- 20- Fine needle lymphnode aspiration for cytology
- 21- Right heart catheterization
- 22- Chest X-ray
- 23- Flouroscopy

### **Procedures performed collaboratively**

- 1- Thoracic imaging ( X-ray, CT, MRI)
- 2- Nuclear medicine techniques (Pulmonary and Bone scan PET)
- 3- Electrocardiogram
- 4- Echocardiography
- 5- Ultrasound
- 6- Transoesophageal ultrasound
- 7- Oesophageal pH monitoring
- 8- Cytology/Histology
- 9- Microbiology testing

### **Treatment modalities and prevention measures**

- 1- Systemic and inhaled drug therapy
- 2- Chemotherapy
- 3- Other systemic antitumour therapy
- 4- Immunotherapy including de-/ hyposensitization
- 5- Oxygen therapy
- 6- Ventilatory support ( Invasive/ Noninvasive/CPAP)
- 7- Cardiopulmonary resuscitation
- 8- Assessment for anaesthesia/Surgery
- 9- Endobronchial therapies
- 10- Intercostal tube drainage
- 11- Pleurodesis
- 12- Home care
- 13- Palliative care
- 14- Pulmonary rehabilitation
- 15- Nutritional interventions
- 16- Surfactant therapy
- 17- Gene therapy

- 18- Principles of stem cell therapy
- 19- Smoking cessation
- 20- Vaccination and infection control
- 21- Other preventive measures

### **Core generic abilities**

- 1- Communication including patient education and public awareness
- 2- Literature appraisal
- 3- Research
- 4- Teaching
- 5- Audit/ quality assurance of clinical practice
- 6- Multidisciplinary teamwork
- 7- Administration and management
- 8- Ethics

### **Competencies in the fields shared with other specialties**

- 1- Intensive care
- 2- High dependency units

### **Knowledge of associated fields relevant to adult Respiratory medicine**

- 1- Thoracic surgery
- 2- Radiotherapy
- 3- Paediatric respiratory medicine
- 4- Chest physiotherapy
- 5- Other relevant medical specialties

### **Further areas relevant to respiratory medicine**

- 1- Epidemiology
- 2- Statistics
- 3- Evidence based medicine
- 4- Quality of life measures
- 5- Psychological factors in the development of respiratory diseases
- 6- Psychological consequences of chronic respiratory diseases
- 7- Public health issues
- 8- Organization of Health care
- 9- Economics of health care
- 10- Compensation and legal issues

## **PART II**

### **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 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 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, Kerala Varma 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.*