

RAJASTHAN PUBLIC SERVICE COMMISSION, AJMER

SYLLABUS OF COMPETITIVE EXAMINATION FOR THE POST OF ASSISTANT PROFESSOR (Super Speciality) CARDIOLOGY MEDICAL EDUCATION DEPARTMENT

Unit-I

Cardiovascular Epidemiology - Burden of cardiovascular disease, Ethics in cardiovascular medicine, Decision making in cardiology.

Unit-II

Genetics - Concept of genetics, pharmacogenetics, molecular biology, clinical application of genetics in cardiology, drugs therapeutics in cardiovascular disorder, biomarkers in cardiovascular disease, cardiovascular vaccines.

Unit-III

Clinical cardiology - History and physical examination, ECG, exercise testing, echocardiography, chest X-ray, nuclear cardiology, MRI, cardiac CT, cardiac catheterization, coronary angiography and intravascular imaging.

Unit-IV

Heart failure - Approach to patient of heart failure, cardiac contraction and relaxation, pathophysiology of heart failure, diagnosis and management of heart failure, heart failure with reduced ejection fraction, heart failure with preserved ejection fraction, devices for monitoring and managing heart failure, surgical management of heart failure, Mechanical circulatory support, management of patient with cardiovascular disease approaching end of life.

Unit-V

Arrhythmia, Sudden death and syncope- Approach to a patient with cardiac arrhythmia, Genetics of cardiac arrhythmia, Mechanism of Cardiac arrhythmia, Diagnosis of Cardiac arrhythmia, Therapy for Cardiac arrhythmia, Supraventricular arrhythmia, Atrial Fibrillation, Ventricular arrhythmia, Bradyarrhythmia and Atrio-ventricular block, Pacemaker and implantable cardioverter defibrillator, Cardiac arrest and sudden cardiac death, Hypotension and syncope.

Unit-VI

Preventive Cardiology- Atherosclerosis, Primary prevention of CV disease, Lipoprotein disorder and cardiovascular diseases, Nutrition and Cardiovascular and

metabolic diseases, Obesity, Diabetes and Cardiovascular disease, Air pollution and Cardiovascular disease, Exercise and sport cardiology.

Unit-VII

Systemic hypertension – Overview, Mechanism, Evaluation, Secondary causes, management, drug therapy, Intervention for hypertension, Hypertensive crisis, future perspective.

Unit-VIII

Atherosclerotic Cardiovascular disease- Approach to patient with chest pain, Coronary blood flow and myocardial ischemia, ST Elevation MI (Epidemiology, presentation, risk factor, analysis, pathophysiology, Clinical features, Prehospital management, Management in emergency department, Reperfusion therapy, Hospital management, complications, intervention, future perspective and post MI care), Non-ST elevation MI, Stable ischemic heart diseases, Percutaneous coronary interventions, Diseases of aorta, Peripheral arterial diseases, Prevention and management of ischemic stroke, treatment of non-coronary obstructive vascular disease.

Unit-IX

Diseases of heart valve- Approach to patient with Valvular heart disease, Aortic valve disease, Mitral valve disease, Tricuspid, Pulmonic and Multivalvular diseases, Rheumatic heart disease and Acute rheumatic fever, Prosthetic heart valve, transcatheter therapy for valvular heart disease, Cardiovascular infection.

Unit-X

Diseases of Myocardium, pericardium and pulmonary vasculature bed- Dilated, restrictive and infiltrative cardiomyopathies, Hypertrophic cardiomyopathy, Myocarditis, Cardiomyopathies induced by drugs and toxins, Cardio-oncology, Cardiovascular abnormalities in HIV patients, Pericardial diseases, Pulmonary embolism, Pulmonary Hypertension, Chronic Lung disease and cardiovascular diseases, sleep disorder breathing and cardiac disease.

Unit-XI

Congenital heart disease and management - Epidemiology, Clinical presentation, Classification of Cyanotic congenital heart disease, Heredity of Congenital heart disease, Maternal disease and congenital heart diseases, Diagnosis and approach to patient of Congenital heart diseases, Imaging in Congenital heart diseases, management of congenital heart diseases, Surgical therapies, Adults with congenital heart diseases, Psychological support to patient and parents of patient of Congenital heart diseases.

Unit-XII

Cardiovascular disease in special population- cardiovascular disease in elderly, cardiovascular disease in women, Pregnancy and heart disease, cardiovascular disease in heterogeneous population.

Unit-XIII

Cardio-vascular disease and disorders of other organs- Endocrine disorders and cardiovascular disease, Hemostasis, Thrombosis, Fibrinolysis and Cardiovascular disease, Rheumatic diseases and Cardiovascular system, Tumors affecting the cardiovascular system, Psychiatric and behavioural aspects of Cardiovascular diseases, Neurologic disorders and cardiovascular diseases, renal disease and Cardiovascular diseases, Cardiovascular manifestation of autonomic disorders.

* * * * *

Pattern of Question Papers:

- 1. Objective Type Paper**
- 2. Maximum Marks: 150**
- 3. Number of Questions: 150**
- 4. Duration of Paper: 2.30 Hours**
- 5. All Questions carry equal marks**
- 6. There will be Negative Marking**
(For every wrong answer one-third of the marks prescribed for that Particular question shall be deducted.)