

POST-DOCTORAL DEGREE EXAMINATION – AUGUST 2022

D.M. CARDIOLOGY

Time: 3 Hours

Max. Marks: 100

PAPER – I

Basic Sciences as applied to Cardiology

Q.P. Code: 1501

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

ESSAY QUESTIONS:

10 X 10 = 100

1. Describe briefly the pathophysiology of congestive heart failure.
2. Embryology and anatomy of AV septal defects.
3. Describe the components of mitral valve apparatus with a diagram. Discuss surgical importance.
4. Describe coronary venous circulation and its applied aspects.
5. Coronary flow reserve and its significance.
6. Pressure volume loops in CHF.
7. The Renin-Angiotensin-Aldosterone system (RAAS) and the drugs at different level of blockade.
8. Dynamic maneuvers and their effect on sounds and murmurs.
9. Fetal circulation: discuss the changes that happen during the transfusion to adult circulation.
10. Describe the development of aortic arches. Enumerate their development anomalies. Mention the management options for their correction.

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PAPER – II

Ischemic Heart Disease and Congenital Heart Disease

Q.P. Code: 1502

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

ESSAY QUESTIONS:

10 X 10 = 100

1. Describe the indication, performance, analysis, utility of Dobutamine stress testing.
2. Paradoxical splitting of second heart sound.
3. Role of echo scoring in mitral stenosis.
4. Myocardial bridging.
5. Heparin induced thrombocytopenia-recognition and management.
6. Duke treadmill score.
7. Mechanism of vasovagal syncope.
8. Assessment of myocardial viability.
9. Cyanotic spell-recognition and management.
10. Contrast induced Nephropathy.

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PAPER – III

**RHD, Hypertension, Cardiomyopathy and other
Cardiovascular Diseases**

Q.P. Code: 1503

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

ESSAY QUESTIONS:

10 X 10 = 100

1. Clinical indication for permanent pacemaker implantation and assessment of pacemaker malfunction.
2. Describe the prediction and prevention of sudden cardiac death.
3. Intra-cardiac echocardiography and discuss its use in clinical practice.
4. Discuss echocardiography and hemodynamic studies to differentiate constructive pericarditis and restrictive cardiomyopathy.
5. Discuss role of PET in cardiology.
6. Describe the methods of coronary intravascular imaging. How do they help in assessment of complication after PCI?
7. Tetralogy of Fallot, palliative and corrective surgery.
8. Describe clinical presentation, diagnosis and treatment of TOKOTSUSO cardiomyopathy.
9. Low flow low gradient AS-evaluation and treatment.
10. Alcohol Septal Ablation.

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PAPER – IV
Recent Advances in Cardiology

Q.P. Code: 1504

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

ESSAY QUESTIONS:

10 X 10 = 100

1. Indication for cardiac transplantation, guidelines in selecting donors and recipients; problems of Immuno-suppression and post-transplant complications.
2. Discuss the role of renal denervation in treatment of hypertension.
3. Bioabsorbable stents-Outline the current status.
4. Physiology and hemodynamic basis of ventricular assist devices.
5. Newer antiplatelet agents.
6. Cardiac resynchronization therapy.
7. Stemcell therapy in cardiovascular disease.
8. Optical coherence tomography.
9. Role of Ticagrelor in cardiology.
10. Radio Frequency Ablation.
