

CARDIOLOGY

PAPER-I

CARD/J/18/05/I

Time: 3 hours

Max. Marks:100

Important Instructions:

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

Write short notes on:

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| 1. | a) Development of aortic arches and its anomalies.
b) Fallot's physiology. | 5+5 |
| 2. | a) Normal fetal circulation.
b) Perinatal changes in fetal circulation. | 5+5 |
| 3. | a) Gross and microscopic pathology of rheumatic heart disease.
b) Congenital anomalies of mitral valve. | 5+5 |
| 4. | a) Draw and label Lewis cardiac cycle with atrial, ventricular, arterial pressure tracings, heart sounds and ECG.
b) Frank Starling's law of the heart. | 5+5 |
| 5. | a) Number Needed to Treat
b) Meta- Analysis
c) Sample size calculation | 2+4+4 |
| 6. | a) Draw and label a normal coronary artery and atherosclerotic artery
b) Effect of coronary balloon angioplasty, stenting and rotablation on atherosclerotic coronary artery.
c) Coronary collateral circulation. | 2+4+4 |
| 7. | a) Mechanisms of arrhythmogenesis.
b) Classification of anti-arrhythmic drugs.
c) Principle and methods of cardiac defibrillation. | 3+3+4 |
| 8. | a) Mechanism of contrast echocardiography with respect to cardiac and extra-cardiac shunts and myocardial perfusion.
b) Hemodynamics of constrictive vs restrictive physiology. | 5+5 |
| 9. | a) Applied anatomy and physiology of normal aorta.
b) Genetics of aortic diseases. | 5+5 |
| 10. | a) Pathophysiology of pulmonary arterial hypertension in congenital heart disease.
b) Pharmacological management of pulmonary arterial hypertension. | 5+5 |
