



**CARDIOLOGY**

**PAPER - I**

CARD/J/14/05/1

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:

1. What are genetic causes of cardiomyopathy? Describe gene mutations causing hypertrophic, metabolic and dilated cardiomyopathy. 4+(2+2+2)
2. a) Pressure gradient measurements during cardiac catheterization. 5+5  
b) How to calculate stenotic valve area in cath lab?
3. Physiologic and pharmacologic maneuvers in cath lab. 5+5
4. Congenital anomalies of coronary arteries and their clinical implications. 5+5
5. What is quantitative coronary angiography? What are the pitfalls of coronary angiography? 5+5
6. Cytoskeletal proteins in the myocardium and their role in heart failure. 5+5
7. a) Microanatomy of contractile cells and proteins. 5+5  
b) Calcium iron fluxes in cardiac contraction and relaxation cycle.
8. Neurohormonal alterations in renal functions and peripheral vasculature in CHF. 5+5
9. Devices for monitoring and managing heart failure. 5+5
10. Describe high risk vulnerable plaque. What are the modalities to treat it? 5+5