FINAL EXAM
DECEMBER 2011

NATIONAL BOARD OF EXAMINATIONS

# CARDIOLOGY

## PAPER- I

**Time : 3 hours** **CARDIO/D/11/05/I**
**Max. Marks : 100**

**Attempt all questions in order.**
**Each question carries 10 marks.**

**Write short notes on:**

| | | |
|---|---|---|
| 1. | Describe the components of mitral valve apparatus with a diagram. Discuss surgical importance. | 6+4 |
| 2. | Discuss neurohumoral changes in chronic heart failure. What is the therapeutic implication of such changes? | 6+4 |
| 3. | Discuss in brief pathology, genetic basis and phenotypic variations in hypertrophic cardiomyopathy. | 4+4+2 |
| 4. | Describe in brief the mechanisms of arrythmogenesis with diagrams. | 10 |
| 5. | Embryological development of inter atrial septum and its clinical significance. | 10 |
| 6. | Coronary flow reserve and its clinical significance. | 6+4 |
| 7. | Describe coronary venous circulation with diagrams and its applied aspects in cardiovascular practice. | 5+5 |
| 8. | What is A G protein? What are the different types and their function? | 4+3+3 |
| 9. | Write briefly on "Molecular biology of the arterial wall". | 10 |
| 10. | What is Fick principle? How do you determine cardiac output by Fick method? | 5+5 |

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## PAPER- II

**Time : 3 hours** **CARDIO/D/11/05/II**
**Max. Marks : 100**

**Attempt all questions in order.**
**Each question carries 10 marks.**

| | | |
|---|---|---|
| 1. | Write briefly about electrocardiographic features, clinical features and management of AV-Nodal re-entrant tachycardia. | 4+2+4 |
| 2. | Discuss the clinical recognition, investigation and management of pulmonary hypertensive crisis. | 2+3+5 |
| 3. | Define low gradient aortic stenosis and discuss its clinical evaluation and treatment. | 2+3+5 |
| 4. | Discuss the clinical presentation, diagnosis and treatment of "Takotsubo" cardiomyopathy (Broken Heart Syndrome). | 3+3+4 |
| 5. | Describe the general principles, indication and regimens for infective endocarditis prophylaxis. | 3+3+4 |
| 6. | Define peripartum cardiomyopathy? What are the risk factors? Discuss its treatment and prognosis. | 3+3+4 |
| 7. | Describe the surgical approach for TOF. What are the indices to predict the outcome? | 7+3 |
| 8. | Discuss the concept, design and initial results of percutaneous aortic valve replacement. | 3+3+4 |
| 9. | Describe role of primary PTCA in acute myocardial infarction. Discuss mechanism and treatment of slow flow phenomenon. | 5+5 |
| 10. | Define obstructive sleep apnea. Discuss its physiology and association with cardiovascular disease. | 3+7 |

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## PAPER- III

**Time : 3 hours** **CARDIO/D/11/05/III**
**Max. Marks : 100**

**Attempt all questions in order.**
**Each question carries 10 marks.**

| | | |
|---|---|---|
| 1. | Describe briefly the methods of coronary intravascular imaging. How do they help in the assessment of complication after PCI? | 6+4 |
| 2. | What is PET? Discuss its role in Cardiology practice. | 2+8 |
| 3. | Describe the role of echocardiography in assessment of chronic MR and to assess suitability of mitral valve repair. | 5+5 |
| 4. | What is vulnerable plaque? Describe in brief various imaging modalities to identify vulnerable plaque. | 2+8 |
| 5. | Discuss the role of echocardiography and hemodynamic studies to differentiate chronic constrictive pericarditis and restrictive cardiomyopathy. | 5+5 |
| 6. | What is intra cardiac echocardiography? What are its advantages over TEE? Discuss its uses in clinical practice? | 2+3+5 |
| 7. | Describe the theories and evidence linking infection and atherosclerosis along with the trial evidence. | 10 |
| 8. | Discuss current concepts in management of thoracic aortic aneurysms and dissection of aorta. | 5+5 |
| 9. | Discuss prediction and prevention of sudden cardiac death. | 5+5 |
| 10. | Discuss the current status of gene therapy and stem cell transplantation in heart diseases. | 5+5 |

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