Write short notes on:

1. Describe the components of mitral valve apparatus with a diagram. Discuss surgical importance. 

2. Discuss neurohumoral changes in chronic heart failure. What is the therapeutic implication of such changes? 

3. Discuss in brief pathology, genetic basis and phenotypic variations in hypertrophic cardiomyopathy. 

4. Describe in brief the mechanisms of arrhythmogenesis with diagrams. 

5. Embryological development of inter atrial septum and its clinical significance. 


7. Describe coronary venous circulation with diagrams and its applied aspects in cardiovascular practice. 

8. What is A G protein? What are the different types and their function? 

9. Write briefly on “Molecular biology of the arterial wall”. 

10. What is Fick principle? How do you determine cardiac output by Fick method?
1. Write briefly about electrocardiographic features, clinical features and management of AV-Nodal re-entrant tachycardia.

2. Discuss the clinical recognition, investigation and management of pulmonary hypertensive crisis.

3. Define low gradient aortic stenosis and discuss its clinical evaluation and treatment.

4. Discuss the clinical presentation, diagnosis and treatment of "Takotsubo" cardiomyopathy (Broken Heart Syndrome).

5. Describe the general principles, indication and regimens for infective endocarditis prophylaxis.

6. Define peripartum cardiomyopathy? What are the risk factors? Discuss its treatment and prognosis.

7. Describe the surgical approach for TOF. What are the indices to predict the outcome?

8. Discuss the concept, design and initial results of percutaneous aortic valve replacement.

9. Describe role of primary PTCA in acute myocardial infarction. Discuss mechanism and treatment of slow flow phenomenon.

10. Define obstructive sleep apnea. Discuss its physiology and association with cardiovascular disease.
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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