

**CARDIOTHORACIC SURGERY**

PAPER – I

CTH/D/16/04/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:

1. Anatomy of the mitral valve under the following headings: 3+3+2+2
  - a) Structure.
  - b) Importance of subvalvular apparatus.
  - c) Carpenter's classification of mitral regurgitation.
  - d) Structural changes in ischemic MR.
2. Estimation of ejection fraction under the following headings: 3+3+2+2
  - a) By echocardiography.
  - b) By imaging techniques.
  - c) Limitations.
  - d) Clinical significance of the assessment.
3. Cardiomyopathy under the following headings: 4+3+3
  - a) Aetiopathogenesis.
  - b) Dilated cardiomyopathy.
  - c) Restrictive cardiomyopathy.
4. Thrombolysis in acute myocardial infarction: 2+2+2+2+2
  - a) Drugs used.
  - b) Importance of the window period.
  - c) Contraindications.
  - d) Results.
  - e) Complications.
5. Total Circulatory Arrest under the following headings: 2+3+3+2
  - a) Indications.
  - b) Conduct.
  - c) Strategies to reduce risk to the CNS.
  - d) Long term sequelae.
6. Interventricular Septum: 5+5
  - a) Embryology.
  - b) Pathological classification of VSDs.

**P.T.O.**

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7. Ventricular afterload: 2+4+4  
a) Definition.  
b) Vasopressor agents.  
c) Methods of reduction of ventricular afterload.
8. Effect of diabetes on the CVS: 3+3+2+2  
a) Pathology.  
b) Assessment of target organ damage.  
c) Relationship between atherosclerosis and diabetes.  
d) Effect on wound healing.
9. Use of heparin in cardiopulmonary bypass: 2+2+2+2+2  
a) Dose and mechanism of actions.  
b) Heparin resistance.  
c) Heparin substitutes.  
d) Monitoring of level of anticoagulations.  
e) Heparin reversal.
10. Effects of cardiopulmonary bypass on the lung under the following 3+2+3+2  
headings:  
a) Pathological changes.  
b) Role of WBC.  
c) Pump lung.  
d) Strategies to reduce the deleterious effects on the lung.

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