

**CARDIO VASCULAR & THORACIC SURGERY (DIRECT 6 YEARS COURSE) PART - I**

**PAPER-II**

Time: 3 hours

CVTS.1/D/20/49/II

Max. Marks:100

**Important Instructions:**

- You are provided with 5 answer sheet booklets. Each individual answer sheet booklet consists of 10 pages excluding the covering jackets.
- Answers to all the questions must be attempted within these 5 answer sheet booklets which must be later tagged together at the end of the exam.
- No additional supplementary answer sheet booklet will be provided.
- 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. a) Draw cardiac cycle with tracings of aortic pressure, atrial pressure, ventricular pressure and ECG. 5+2+3  
b) Definition of mean arterial pressure.  
c) Describe various type of arterial pulses.
2. Describe pulmonary thromboembolism under: 3+4+3  
a) Definition, predisposing conditions.  
b) Diagnosis including clinical features and investigations.  
c) Management.
3. a) Protamine reaction and its management in the operating room. 5+5  
b) Discuss International Normalized Ratio (INR) and management of anticoagulation in postoperative patients with prosthetic mitral valve replacement.  
c) Discuss Activated clotting time (ACT) and its application in cardiopulmonary bypass.
4. Describe anatomy of Mitral valve under following headings: 4+2+4  
a) Structure.  
b) Importance of subvalvular apparatus.  
c) Carpenter's classification of mitral regurgitation.
5. Describe Ivabradine under following headings: 5+2+3  
a) Mechanism of action, pharmacodynamics, pharmacokinetics, doses.  
b) Side effects.  
c) Role in heart failure.
6. a) Embryology of Patent ductus arteriosus. 2+3+3+2  
b) Spontaneous closure of PDA.  
c) Clinical features, and  
d) Natural history of PDA. P.T.O.

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7. a) Describe obligatory cardiac shunts. 3+4+3  
b) Determinants of left to right shunt in secundum atrial septal defect.  
c) Grading of Eisenmenger disease.
8. a) Define ankle brachial index. Explain the technique to measure it. 3+4+3  
b) Draw a chart showing severity of PAD on basis of ABI.  
c) Discuss any three of its disadvantages.
9. a) What is a continuous murmur? 2+2+(3+3)  
b) Enumerate conditions causing continuous murmur.  
c) Enumerate newer oral anticoagulants. Briefly discuss one of them.
10. a) FFR. 4+3+3  
b) Draw circuit of CPB using membrane oxygenator for secundum ASD.  
c) Draw circuit of CPB using Bubble oxygenator for secundum ASD.

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