

POST-DOCTORAL DEGREE EXAMINATION – AUGUST 2021

D.M. CARDIAC ANAESTHESIA

Time: 3 Hours

Max. Marks: 100

PAPER – I
Basic Sciences

Q.P. Code: 1525

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Describe anatomy of mitral valve apparatus. Add a note on patho-physiology of acute mitral regurgitation. (15+5)
2. Discuss oxygen transport physiology. Add a note on oxygen delivery during cardio-pulmonary bypass. (15+5)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Discuss hypoxic pulmonary vasoconstriction.
4. Compare and contrast pressure volume loops of normal ventricle and hypertrophic ventricle.
5. Discuss pathophysiology of one lung ventilation in supine and lateral position.
6. Discuss physiological changes during cardio-pulmonary bypass.
7. Tranexamic acid.
8. Describe contractile mechanism of heart.

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Time: 3 Hours

Max. Marks: 100

PAPER – II
Clinical Practice of Anaesthesia

Q.P. Code: 1526

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Discuss the pre-anaesthetic preparation, anaesthetic management and post-anaesthetic management of 75 year old patient with ischemic heart disease posted for 'Redo' Coronary Artery Bypass Grafting (CABG).
2. Discuss various types of TAPVC. Describe anaesthetic management of obstructed TAPVC (Total Anomalous Pulmonary Venous Connection).

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Intra-Aortic Ballon pump.
4. High Flow Nasal Oxygen Therapy.
5. Hemofiltration during neonatal cardiac surgery.
6. Discuss the diagnosis and management of Acute Tubular Necrosis.
7. Cerebral protection during CPB (Cardiopulmonary Bypass).
8. Protamine.

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Time: 3 Hours

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**PAPER – III
Allied Sciences**

Q.P. Code: 1527

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Discuss various Cardiac Risk Evaluation systems/protocols with advantages and disadvantages of each of them.
2. Discuss various cardiac –output measurement modalities.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Discuss AICD (Automatic Implantable Cardioverter Defibrillator).
4. BIS monitoring.
5. Prothrombin Time (PT.INR) and partial thromboplastin time (a PTT)
6. Blood conservation technique during cardiac surgery.
7. Discuss Alph stat and pH stat acid base balance management.
8. TEE (Transesophageal Echocardiography) evaluation of aorta.

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Time: 3 Hours

Max. Marks: 100

**PAPER – IV
Recent Advances**

Q.P. Code: 1528

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Describe pre-anaesthetic evaluation, preparation and anaesthetic management of patient for heart transplantation.
2. Write an essay on Ventricular Assist Devices.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Clonidine.
4. Leuko reduction and its benefits.
5. Nitric oxide in peri-operative period.
6. ECMO-CPR (Extracorporeal Membrane Oxygenation- Cardiopulmonary Resuscitation).
7. Discuss lung ultrasound uses in post-cardiac surgical patients.
8. Plasma volume expanders in cardiac surgery.
