

MANIPAL ACADEMY OF HIGHER EDUCATION
M.Ch. (CARDIO VASCULAR AND THORACIC SURGERY)
DEGREE EXAMINATION – JULY 2019

SUBJECT: PAPER I: BASIC SCIENCES

Tuesday, July 09, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Describe the surgical anatomy of the lung and bronchopulmonary segments. Discuss the physiological functions of the lung.

(20 marks)

2. Describe the surgical anatomy of the morphological right ventricle and the different types of ventricular septal defects.

(20 marks)

3. **Short Essay**

3A. Aschoff nodule

3B. Cardiac cycle: describe with diagram

3C. Dobutamine

3D. Rigid bronchoscope - Indications, instrument, and complications during scopy

3E. Classification of pulmonary vascular disease

3F. Pulmonary artery wedge pressure

(10 marks × 6 = 60 marks)



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SUBJECT: PAPER II: CONGENITAL HEART SURGERY

Wednesday, July 10, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Classify Total Anomalous Pulmonary venous connection and discuss the management. (20 marks)
2. Describe the evolution and technique of surgery for congenital post subclavian coarctation of Aorta. (20 marks)

3. **Short Essay:**

- 3A. Modified Blalock Taussig Shunt: indications and surgery steps briefly.
- 3B. Ostium primum defect.
- 3C. Technique of senning operation and its complications.
- 3D. Management of major aorto pulmonary collaterals in tetralogy of fallot.
- 3E. Scimitar syndrome
- 3F. Classification of congenital heart diseases with examples.

(10 marks × 6 = 60 marks)



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SUBJECT: PAPER III: ACQUIRED HEART DISEASE, GREAT ARTERIES, THORACIC

Thursday, July 11, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Describe etiopathogenesis, incidence, classification, clinical features, diagnostic tests and management of ruptured sinus of Valsalva. (20 marks)

2. Describe etiology, diagnostic tests and evaluation of a case of calcified Aortic stenosis, for aortic valve replacement. (20 marks)

3. **Short Essay:**

3A. Pathology of Carcinoma of lung

3B. Achalasia cardia

3C. Total arterial revascularization in coronary artery bypass surgery

3D. Management of prosthetic valve thrombosis

3E. Different approaches to mitral valve surgery

3F. Tricuspid valve repair

(10 marks × 6 = 60 marks)



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SUBJECT: PAPER IV: RECENT ADVANCES

Friday, July 12, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer ALL the questions.

✍ Long Essay:

1. Discuss the various techniques of myocardial protection and their molecular basis and mention the recent advances.
(20 marks)
2. Discuss the evolution of Fontan surgery and the merits of total cavopulmonary connection.
(20 marks)

3. Short Essay:

- 3A. Transcatheter Aortic valve implantation. (TAVI)
- 3B. Advances in new generation tissue valves.
- 3C. Biomarkers in Lung cancer.
- 3D. Newer techniques of sternal closure.
- 3E. Cardiopulmonary bypass setup for infant cardiac surgery.
- 3F. Cerebral perfusion in Aortic arch surgery.

(10 marks × 6 = 60 marks)

