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**MANIPAL UNIVERSITY**  
**M.Ch. (CARDIO VASCULAR AND THORACIC SURGERY)**  
**DEGREE EXAMINATION – JULY 2015**

**SUBJECT: PAPER I: BASIC SCIENCES**

Tuesday, July 14, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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☞ **Long Essay:**

1. Describe the anatomy of the Aortic root and outline the surgical procedures to enlarge the small aortic root. (20 marks)
  
2. Describe the lymphatic drainage of the Lung and its clinical significance. (20 marks)

3. **Short Essay:**

- 3A. Left Superior Vena Cava – Embryology, Diagnosis and management during atrial septal defect closure
- 3B. Anatomy of the Radial Artery
- 3C. Retrograde cardioplegia- Indication, catheter details and technique of placement
- 3D. Mediastinoscopy- Indications, instrument, node sampled and complications
- 3E. Surgical anatomy of the esophagus
- 3F. Thoracic Outlet anatomy and clinical significance

(10 marks × 6 = 60 marks)



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# MANIPAL UNIVERSITY

## M.Ch. (CARDIO VASCULAR AND THORACIC SURGERY) DEGREE EXAMINATION – JULY 2015

### SUBJECT: PAPER II: CONGENITAL HEART SURGERY

Wednesday, July 15, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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✍ **Long Essay:**

1. Discuss the classification, clinical features and management of Transposition of Great Arteries. (20 marks)

2. Enumerate the different types of systemic to pulmonary shunts and describe on of them. (20 marks)

3. **Short Essay:**

3A. Deep hypothermic circulatory arrest

3B. Classification of Truncus arteriosus

3C. Surgical treatment of Ebstein anomaly of the tricuspid valve

3D. Mustard operation: indication, procedure and complications

3E. Cyanotic spell in Tetralogy of Fallot

3F. Salient features and treatment of ostium primum defect

(10 marks × 6 = 60 marks)



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## MANIPAL UNIVERSITY

### M.Ch. (CARDIO VASCULAR AND THORACIC SURGERY) DEGREE EXAMINATION – JULY 2015

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

Thursday, July 16, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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☞ **Long Essay:**

1. Discuss the etiology, clinical features and management of non small cell carcinoma of the bronchus. (20 marks)

2. Describe different methods of Aortic valve repair and results. (20 marks)

3. **Short Essay:**

3A. Etiology and Management of postoperative open heart surgery mediastinitis

3B. Hydatid disease of the lung – clinical features and treatment

3C. Sleeve resection of the lung

3D. Surgery for carcinoma esophagus middle one third

3E. Management strategies in Aortic arch aneurysm

3F. Diagnoses and surgery for ischemic ventricular septal rupture

(10 marks × 6 = 60 marks)



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**MANIPAL UNIVERSITY**  
**M.Ch. (CARDIO VASCULAR AND THORACIC SURGERY)**  
**DEGREE EXAMINATION – JULY 2015**

**SUBJECT: PAPER IV: RECENT ADVANCES**

Friday, July 17, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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**Long Essay:**

1. Discuss the technique of multiport video assisted thoracoscopic surgery in lung resections. (20 marks)
2. Describe various types of ventricular assist devices and the current status. (20 marks)

**Short Essay:**

- 3A. Esophageal stents for inoperable carcinoma
  - 3B. Virtual Bronchoscopy
  - 3C. Stem cell therapy in advance, inoperable ischemic heart disease
  - 3D. Mitral clip
  - 3E. New generation tissue valves
  - 3F. Monoclonal antibodies in lung cancer
- (10 marks × 6 = 60 marks)

