

APRIL - 2001

[KD 028]

Sub. Code : 1504

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

Branch I — Thoracic Surgery

(Revised Regulations)

**Paper IV — RECENT ADVANCES IN THORACIC AND
CARDIOVASCULAR SURGERY**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Staging and Management of Bronchogenic Carcinoma. (25)
- 2 Heart Transplantation (25)
- 3 Short notes on : (5 × 10 = 50)
 - (a) Conduits in CABG.
 - (b) Aorto-pulmonary coronary artery (APCA)
 - (c) SVC-syndrome.
 - (d) St. Thomas Cardioplegia.
 - (e) Bronchogram.

MARCH - 2002

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch I — Thoracic Surgery

**Paper IV — RECENT ADVANCES IN THORACIC
AND CARDIOVASCULAR SURGERY**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Describe the role of surgery in congestive cardiac failure. (25)
 2. Discuss the role of surgery in pleuropulmonary tuberculosis with special reference to multi drug resistance. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) Minimally invasive thoracic surgery
 - (b) Oesophageal stents
 - (c) Biological markers in rib tumours
 - (d) Classification of various substances released by the endothelium
 - (e) Major and minor cardiovascular complications of neuroaxial block (Epidural).
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SEPTEMBER - 2002

[KH 028]

Sub. Code : 1504

M.Ch. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch I — Thoracic Surgery

Paper IV — RECENT ADVANCES IN THORACIC AND
CARDIOVASCULAR SURGERY

Time Three hours

Maximum : 100 marks

Answer ALL questions.

1. Fontan procedure and its various modifications.
(25)
2. Aortic arch abnormality and its various
reconstructive procedures for correction. (25)
3. Short notes on : (5 × 10 = 50)
 - (a) Infective endocarditis prophylaxis in cardiac surgery.
 - (b) Bronchoscopy and Bronchogram.
 - (c) Immunosuppressants in cardiac surgery.
 - (d) C.T. scan in cardiothoracic surgery.
 - (e) Anatomy of cardiac muscle.

APRIL - 2003

[KI 028]

Sub. Code : 1504

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch I — Thoracic Surgery

**Paper IV — RECENT ADVANCES IN THORACIC AND
CARDIOVASCULAR SURGERY**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Discuss the recent advances in the management of single ventricle. (25)
 2. Discuss the various aspects of lung transplantation. (25)
 3. Short notes on : (5 × 10 = 50)
 - (a) Low molecular weight heparin
 - (b) Role of magnetic resonance imaging in CVT surgery
 - (c) Homograft procurement and preservation
 - (d) Arterial filters
 - (e) Poly-Tetra fluoro-ethylene.
-

APRIL - 2004

[KK 028]

Sub. Code : 1504

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch I — Cardio Thoracic Surgery

Paper IV — RECENT ADVANCES IN THORACIC AND
CARDIO VASCULAR SURGERY

Time : Three hours

Maximum : 100 marks

Theory : Two hours and
forty minutes

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

A. Essay questions :

(2 × 15 = 30)

- (1) Surgical Management of Heart failure.
- (2) Discuss the pathophysiology of atrial fibrillation and management of atrial fibrillation.

B. Short notes :

(10 × 5 = 50)

- (1) Sutureless anastomotic devices.
 - (2) Tissue engineered valves.
 - (3) PADCAB.
 - (4) Vacuum assisted venous drainage.
 - (5) Fibrin glue.
 - (6) Dor's procedure.
 - (7) Prostaglandin.
 - (8) α_1 antitrypsin deficiency.
 - (9) Alfieri stitch.
 - (10) Drug eluting stents.
-

AUGUST - 2004

[KL 028]

Sub. Code : 1504

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch I — Cardio Thoracic Surgery

**Paper IV — RECENT ADVANCES IN THORACIC AND
CARDIO VASCULAR SURGERY**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

I. Essay Questions :

(2 × 15 = 30)

(1) Discuss the technique of beating heart surgery in coronary artery bypass. What are its advantages and complications?

(2) Discuss the technique, indications, complications and results of total cavo-pulmonary anastomosis.

II. Short notes :

(10 × 5 = 50)

(a) Total arterial revascularisation.

(b) Oncogenes in lung cancer.

(c) Left ventricular assist devices.

(d) Implantable artificial heart.

(e) Recent management strategies in acute respiratory distress syndrome.

(f) Essential components of video assisted thoroscopic surgery.

(g) Use of nitric oxide in pediatric cardiac surgery.

(h) Role of diaphragm pacing and results.

(i) What is a centrifugal pump? Mention its advantages.

(j) Heparin alternatives.

FEBRUARY - 2005

[KM 028]

Sub. Code : 1504

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch I — Cardio Thoracic Surgery

**Paper IV — RECENT ADVANCES IN THORACIC AND
CARDIO VASCULAR SURGERY**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

I. Essay Questions :

(2 × 15 = 30)

**(1) Discuss in detail the advantages and
disadvantages of Off-Pump Coronary Artery Bypass
Surgery.**

**(2) Discuss in detail the recent advances in
surgical treatment of Non-Small Cell Carcinoma of the
lung.**

II. Short Notes :

(10 × 5 = 50)

- (a) Gene therapy for coronary artery disease.**
- (b) DORS procedure.**
- (c) REV procedure.**
- (d) Trans Myocardial Revascularization.**
- (e) Spinal Cord Stimulation.**
- (f) Lung reduction surgery.**
- (g) Role of Nitric Oxide in cardiac surgery.**
- (h) Alternative therapies for end stage heart
disease**
- (i) VATS in cardiac surgery.**
- (j) Phosphodiesterase inhibitors in cardiac
surgery.**

FEBRUARY - 2006

[KO 028]

Sub. Code : 1504

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch I — Cardio Thoracic Surgery

**Paper IV — RECENT ADVANCES IN THORACIC AND
CARDIO VASCULAR SURGERY**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

I Essay questions :

(2 × 15 = 30)

**(1) Describe newer methods of treating ischemic
cardiomyopathy.**

**(2) Elaborate the concept – ‘endothelial cell as
an endocrine organ’.**

II Short notes :

(10 × 5 = 50)

- (a) Percutaneous valve replacement.**
- (b) Leucocyte depletion during CPB.**
- (c) Gene transfer technology in CT surgery.**
- (d) Awake cardio thoracic surgery.**
- (e) Anti fibrinolytic agents.**
- (f) CNS monitoring during open heart surgery.**
- (g) Hyperpolarising cardiac arrest.**
- (h) Retrograde cerebral perfusion.**
- (i) Sutureless coronary anastomosis.**
- (j) Device closure of VSD.**

AUGUST - 2006

[KP 028]

Sub. Code : 1504

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch I — Cardio Thoracic Surgery

**Paper IV — RECENT ADVANCES IN THORACIC AND
CARDIO VASCULAR SURGERY**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

I. Essay questions :

(1) Clinical evaluation of heart lung and lung transplantation candidates. (20)

(2) Discuss the role of intra aortic balloon pump in cardiac surgery. (15)

(3) Discuss the role of Video Assisted Thoracic Surgery (VATS) in the diagnosis and management of thoracic diseases. (15)

II. Write Short notes :

(6 × 5 = 30)

(a) Role of vasodilators in cardiac surgery

(b) MIDCAB (Minimally invasive direct coronary artery bypass) and hybrid MIDCAB

(c) Management of tracheal stenosis following prolonged intubation

(d) Therapeutic angiogenesis

(e) Non invasive positive pressure ventilatory support

(f) Role of surgery in the management of atrial arrhythmias.

FEBRUARY - 2007

[KQ 028]

Sub. Code : 1504

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch I — Cardio Thoracic Surgery

**Paper IV — RECENT ADVANCES IN THORACIC AND
CARDIO VASCULAR SURGERY**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL the questions.

I. Essay Questions :

- 1. Discuss the current status of multivessel stenting with drug eluting stents versus total arterial grafting.(20)**
- 2. Describe the advantages of early correction of various congenital defects. (15)**
- 3. Discuss the various factors governing the early and late patency of different conduits used in coronary bypass surgery. (15)**

II. Write short notes on :

(6 × 5 = 30)

- 1. Tissue valve engineering**
 - 2. Percutaneous aortic valve replacement**
 - 3. Nitric oxide**
 - 4. Professor Solomon Victor**
 - 5. Phospho diesterase inhibitors**
 - 6. Thoracic outlet syndrome.**
-

August-2007

[KR 028]

Sub. Code : 1504

II. Write short notes on :

(6 × 5 = 30)

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch I — Cardio Thoracic Surgery

Paper IV — RECENT ADVANCES IN THORACIC AND CARDIO VASCULAR SURGERY

Time : Three hours **Maximum : 100 marks**

Theory : Two hours and forty minutes	Theory : 80 marks
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M.C.Q. : Twenty minutes **M.C.Q. : 20 marks**

Answer ALL questions.

I. Essay questions :

(1) Discuss the role of Non invasive Coronary Angiograms. (20)

(2) Discuss various management options available for Dilated Cardiomyopathy (15)

(3) Discuss early detection of lung cancer and role of surgery in Small-cell lung cancer. (15)

(a) LABP

(b) Lung Volume Reduction Surgery

(c) **Devices for Sternal closure**

(d) **A.I.C.D.**

(e) **Bronchoplasty**

(f) **Management of infected pacemaker.**

[KS 028]

Sub. Code : 1504

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch I — Cardio Thoracic Surgery

**Paper IV — RECENT ADVANCES IN THORACIC AND
CARDIO VASCULAR SURGERY**

Q.P. Code : 181504

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

I. Essay : (2 × 20 = 40)

**1. Discuss newer modalities of imaging in
cardiovascular and thoracic surgery. (20)**

**2. Discuss indications, contra indications and
technique of Ross operation. (20)**

II. Short notes : (10 × 6 = 60)

(1) Norwood procedure

(2) Paediatric heart transplant

(3) Robotic cardiac surgery

(4) Ebstein's anomaly

(5) Approaches to mitral valve

(6) Ventricular assist devices

(7) Left heart bypass

(8) Transapical valve replacement

(9) Stem cell therapy in cardio vascular surgery

(10) Blood conservation techniques.

August 2008

[KT 028]

Sub. Code: 1504

M.Ch. DEGREE EXAMINATION

**(Higher Specialities)
(Revised Regulations)**

Branch I – Cardio Thoracic Surgery

**Paper IV – RECENT ADVANCES IN THORACIC AND
CARDIO VASCULAR SURGERY**

Q.P. Code: 181504

Time: Three hours

Maximum: 100 Marks

**ANSWER ALL QUESTIONS
Draw suitable diagrams wherever necessary.**

I. Essays: (2 x 20 = 40)

1. Describe the various surgical procedures for atrial fibrillation.
2. Describe the various left heart devices and their limitations.

II. Write short notes on: (10 X 6 = 60)

1. Centrifugal pump.
 2. Endoscopic removal of saphenous vein.
 3. Autologous blood transfusion.
 4. Stabilization devices in off pump coronary bypass.
 5. Valved conduits in cardiac surgery.
 6. Stem cell therapy application in cardiac surgery.
 7. Role of free radicals in heart disease.
 8. Percutaneous valve replacements.
 9. Role of video assisted thoracic surgery in harvesting of internal mammary artery.
 10. Adenosin use in cardiac surgery.
-

August 2009

[KV 028]

Sub. Code: 1504

MASTER OF CHIRURGIAE (M.Ch.) DEGREE EXAMINATIONS

(Super Specialities)

(Revised Regulations)

Branch I – Cardio Vascular and Thoracic Surgery

(Common to all candidates)

**Paper IV – RECENT ADVANCES IN THORACIC AND CARDIO
VASCULAR SURGERY**

Q.P. Code: 181504

Time: Three hours

Maximum: 100 Marks

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Essays: (2 x 20 = 40)

1. Discuss the various non transplant surgical options in congestive heart failure.
2. Discuss the current management strategies in atrial fibrillation.

II. Write short notes on: (10 x 6 = 60)

1. Embryonic stem cells.
2. Airway management in tracheal surgery.
3. Percutaneous valve implantation.
4. Cardiac MRI.
5. New generation tissue valves.
6. Intra operative assessment of coronary grafts.
7. Restraining devices in dilated cardio myopathy.
8. Totally endoscopic coronary artery bypass.
9. Multi slice CT in coronary artery disease.
10. Multi drug resistant acid fast bacilli.

February 2010

[KW 028]

Sub. Code: 1504

MASTER OF CHIRURGIAE (M.Ch.) DEGREE EXAMINATIONS

(Super Specialities)

(Revised Regulations)

Branch I – Cardio Vascular and Thoracic Surgery

(Common to all candidates)

**Paper IV – RECENT ADVANCES IN THORACIC AND CARDIO
VASCULAR SURGERY**

Q.P. Code: 181504

Time: Three hours

Maximum: 100 Marks

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Essays:

(2 x 20 = 40)

1. Describe the present day management of heart failure by surgical methods.
2. What is beating heart surgery? Describe the various robotic cardiac surgical procedures popular at present.

II. Write short notes on:

(10 x 6 = 60)

1. Stem cell.
2. Trans myocardial LASER treatment
3. Atrial natriuretic peptide.
4. Antiplatelet drugs.
5. Transoesophageal echocardiogram.
6. Post pneumonectomy space management.
7. Oesophageal stricture.
8. Diaphragmatic eventration.
9. Left ventricular aneurysm.
10. Anti fibrinolytics.

February 2011

[KY 028]

Sub. Code: 1504

MASTER OF CHIRURGIAE (M.Ch.) DEGREE EXAMINATIONS

(Super Specialities)

(Revised Regulations)

Branch I – Cardio Vascular and Thoracic Surgery

(Common to all candidates)

**Paper IV – RECENT ADVANCES IN THORACIC AND CARDIO
VASCULAR SURGERY**

Q.P. Code: 181504

Time: Three hours

Maximum: 100 Marks

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Essays:

(2 x 20 = 40)

1. Minimal Access CABG.
2. VATS in Lung Cancer.

II. Write short notes on:

(10 x 6 = 60)

1. PET scan in cardiac surgery.
2. Ante grade cerebral perfusion.
3. Stem cell therapy in cardiac surgery.
4. Dobutamine.
5. Homografts in cardiac surgery.
6. Robotic cardiac surgery.
7. EVPP (Endoventricular Patch Plasty).
8. Anion gap.
9. Sildenafil.
10. Post pneumonectomy empyema.

August 2011

[KZ 028]

Sub. Code: 1504

**MASTER OF CHIRURGIAE (M.Ch.) DEGREE EXAMINATION
(SUPER SPECIALITIES)**

BRANCH I – CARDIO VASCULAR AND THORACIC SURGERY

RECENT ADVANCES IN THORACIC AND CARDIO VASCULAR SURGERY

Q.P. Code: 181504

**Time : 3 hours
(180 Min)**

Maximum : 100 marks

Answer ALL questions in the same order.

I. Elaborate on :

**Pages Time Marks
(Max.) (Max.) (Max.)**

1. Discuss mechanical circulatory support devices, Indications and limitations.
2. A person has been posted for minimally invasive mitral valve replacement. Discuss the modifications in CPB and special equipment used.

11	35	15
11	35	15

II. Write notes on :

1. Pacemakers.
2. Single lung transplantation - indications and technique.
3. Grafts used in Aortic arch surgeries.
4. Valve sparing Aortic root replacement.
5. Choice of conduits for CABG in the young people. Discuss technique involved.
6. Evolution of oxygenators and present day oxygenators.
7. Centrifugal pumps.
8. Indications and technique of lung volume reduction surgery.
9. Dynamic cardiomyoplasty.
10. Hybrid coronary artery revascularization.

4	10	7
4	10	7
4	10	7
4	10	7
4	10	7
4	10	7
4	10	7
4	10	7
4	10	7
4	10	7

[LB 028]

AUGUST 2012

Sub. Code: 1504

M.Ch – CARDIO VASCULAR AND THORACIC SURGERY

Paper – IV RECENT ADVANCES IN THORACIC AND
CARDIO VASCULAR SURGERY

Q.P. Code: 181504

Time : 3 hours
(180 Min)

Maximum : 100 marks

Answer ALL questions in the same order.

I. Elaborate on:

Pages Time Marks
(Max.)(Max.)(Max.)

- | | | | |
|--|----|----|----|
| 1. Discuss the role of Lung Transplant in the management of respiratory disorders. | 16 | 35 | 15 |
| 2. Discuss the recent advances in the management of single ventricle. | 16 | 35 | 15 |

II. Write notes on:

- | | | | |
|--|---|----|---|
| 1. Contra indications for surgery in Bronchogenic carcinoma. | 4 | 10 | 7 |
| 2. Describe dynamic cardio myoplasty and its benefits. | 4 | 10 | 7 |
| 3. Elaborate on Alternative conduits for CABG. | 4 | 10 | 7 |
| 4. Describe indications, advantages and disadvantages of Transmyocardial laser treatment. | 4 | 10 | 7 |
| 5. Explain about Homograft procurement and methods of preservation. | 4 | 10 | 7 |
| 6. Classification of various substances released by the endothelium. | 4 | 10 | 7 |
| 7. What are various ventricular assist devices and its indications. | 4 | 10 | 7 |
| 8. Describe DORS procedure and its indications. | 4 | 10 | 7 |
| 9. Explain different methods of CNS monitoring during open heart surgery and its advantages. | 4 | 10 | 7 |
| 10. Describe the benefits, operative procedure and disadvantages of awake cardio thoracic surgery. | 4 | 10 | 7 |

(LD 028)

AUGUST 2013

Sub. Code:1504

M.Ch. – CARDIO VASCULAR AND THORACIC SURGERY
Paper – IV RECENT ADVANCES IN THORACIC AND CARDIO
VASCULAR SURGERY
Q.P.Code: 181504

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X15=30)

1. Indications and technical considerations in VATS lobectomy.
2. Various techniques of minimally invasive aortic valve replacement.

II. Write notes on:

(10X7=70)

1. Late presenting TGA rapid two stage switch versus atrial switch.
2. Stem cells in cardiac surgery.
3. Debranching graft indications and technique.
4. Off pump CABG versus on pump.
5. Endovascular options in aneurysm.
6. Three dimensional echo.
7. Conventional coronary angiography versus multi slice CT coronary angiography.
8. Use of internal mammary artery as a sequential graft.
9. Types of rings used in mitral valve repair.
10. Pulsatile cardio pulmonary bypass.

[LF 028]

AUGUST 2014

Sub. Code: 1504

M.Ch. – CARDIO VASCULAR AND THORACIC SURGERY

**Paper IV – RECENT ADVANCES IN THORACIC
AND CARDIO VASCULAR SURGERY**

Q. P. Code: 181504

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions in the same order.

I. Elaborate on:

(2 x 15 = 30)

1. Total Artificial Heart-Indications and Techniques.
2. Transcatheter Valve Replacement.

II. Write notes on:

(10 x 7 = 70)

1. Positron Emission Tomography (PET) Scan.
2. Alfieri stitch.
3. Extra Corporeal Lung Support.
4. Tracheal Stents.
5. Epiaortic Ultrasound.
6. Trans Esophageal Echocardiography (TEE).
7. Proximal Anastomotic Device.
8. Hybrid Procedure.
9. MIDCAB.
10. Endo Bronchial UltraSound (EBUS).

[LH 028]

AUGUST 2015

Sub. Code: 1504

M.Ch. – CARDIO VASCULAR AND THORACIC SURGERY
PAPER IV – RECENT ADVANCES IN THORACIC AND CARDIO
VASCULAR SURGERY

Q.P. Code : 181504

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 15 = 30)

1. Bentall Procedure- Techniques and Complications.
2. Surgical Management of Arrhythmias.

II. Write notes on :

(10 x 7 = 70)

1. Magnetic Resonance Imaging (MRI) Cardiac Scan.
2. Statins in Cardiac Surgery.
3. ImmunoHistochemistry (IHC) in Lung Cancer.
4. Early Oesophageal Cancer.
5. Coronary Artery crossing over RVOT.
6. Chitwood-Debakey Aortic Clamp.
7. Coronary Angioscopy.
8. Cisplatin in Lung Cancer.
9. Coronary Endarterectomy.
10. IntraVascular UltraSound (IVUS).

M.Ch. – CARDIO VASCULAR AND THORACIC SURGERY
Paper IV – RECENT ADVANCES IN THORACIC AND CARDIO
VASCULAR SURGERY

Q.P.Code: 181504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Discuss indications and surgical management of Atrial Fibrillation.
2. Cardiogenic shock – Causes and mainstay therapies.

II. Write notes on: **(10 x 7 = 70)**

1. Implantable Cardioverter Defibrillator.
2. Heparin Alternatives in Cardiopulmonary Bypass.
3. Contraindications to heart transplant.
4. Hypertrophic obstructive cardiomyopathy.
5. Percutaneous transluminal coronary angioplasty (PTCA) – Contraindications.
6. Axial pumps.
7. Coronary flow reserve.
8. Cardiac Computed Tomography in non-coronary surgery.
9. Assessment of Myocardial Viability.
10. Pulmonary thromboendarterectomy.

M.Ch. – CARDIO VASCULAR AND THORACIC SURGERY

**Paper IV – RECENT ADVANCES IN THORACIC AND CARDIO
VASCULAR SURGERY**

Q.P.Code: 181504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Causes of Mitral regurgitation and techniques of repair.
2. Robotic Cardiac Surgery.

II. Write notes on: **(10 x 7 = 70)**

1. Pulmonary arteriovenous fistula.
2. Lung Volume Reduction Surgery.
3. Mitraclip Device.
4. LIMA-RIMA Y Graft.
5. Pleurodesis by VATS.
6. p53 Gene therapy.
7. Del Nido Cardioplegia.
8. Total CavoPulmonary Connection (TCPC).
9. Completion pneumonectomy.
10. Diffusion Capacity of Lung for Carbon Monoxide (DLCO).

(LM 028)

FEBRUARY 2018

Sub. Code: 1504

M.Ch. – CARDIO VASCULAR AND THORACIC SURGERY

**Paper IV – RECENT ADVANCES IN THORACIC AND CARDIO
VASCULAR SURGERY**

Q.P.Code: 181504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Indications, contraindications, operative technique and outcome of Video Assisted Thoroscopic Pulmonary resections.
2. Minimally invasive surgery for cardiac diseases.

II. Write notes on:

(10 x 7 = 70)

1. TEVAR.
2. Ventricular remodeling surgery.
3. Safety precautions in cardiac surgical teams.
4. Retrograde cerebral perfusion.
5. Tunneled pleural catheters.
6. Endobronchial valves.
7. Surgical treatment of secondary tricuspid regurgitation.
8. Ventricular assist devices.
9. Lung volume reduction surgery.
10. Pulmonary resections on cardio pulmonary bypass.

M.Ch. – CARDIO VASCULAR AND THORACIC SURGERY

**Paper IV – RECENT ADVANCES IN THORACIC AND CARDIO
VASCULAR SURGERY**

Q.P.Code: 181504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Mechanical circulatory support.
2. Discuss the morphology of coarctation of Aorta. Mention the various surgical procedures and write a note on spinal cord protection.

II. Write notes on: **(10 x 7 = 70)**

1. Mitraclip.
2. IABP.
3. Homografts.
4. Oral Anticoagulants.
5. Cardiac MRI.
6. Classification and grading of pulmonary rejection.
7. Diaphragmatic hernia.
8. Esophageal Diverticulum.
9. Coronary AV fistula.
10. Surgery for complications of myocardial infarction.

M.Ch. – CARDIO VASCULAR AND THORACIC SURGERY

**Paper IV – RECENT ADVANCES IN THORACIC AND CARDIO
VASCULAR SURGERY**

Q.P. Code: 181504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Discuss in detail about current status of Minimally Invasive Cardiac Surgery.
2. Discuss in detail about Heart Transplantation.

II. Write notes on: **(10 x 7 = 70)**

1. Coarctation of Aorta.
2. Conduits in Esophageal Surgery.
3. Gene Therapy in Cardiac Surgery.
4. Maze procedure.
5. Prosthetic valve Endocarditis.
6. Venous vs Arterial Conduits in CABG.
7. Anomalous Origin of Left Coronary Artery.
8. Thoracic Outlet Syndrome.
9. Recent trends in fonton procedure.
10. Minimally invasive CABG.

(LR 028)

**NOVEMBER 2020
(AUGUST 2020 SESSION)**

Sub. Code: 1504

M.Ch. – CARDIO VASCULAR AND THORACIC SURGERY

**Paper IV – RECENT ADVANCES IN THORACIC AND CARDIO
VASCULAR SURGERY**

Q.P. Code: 181504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss the current trends in 'total arterial vascularization'.
2. Discuss types of aortic dissection and recent advances in their management.

II. Write notes on:

(10 x 7 = 70)

1. Staging of oesophageal carcinoma
2. Tracheal stenting
3. DEL-NIDO cardioplegia
4. Azygos lobe
5. Pott's shunt
6. Video-assisted thoracic surgery and its uses
7. Endo bronchial ultrasound
8. Intra-Aortic Balloon pump
9. Solitary pulmonary nodule
10. Achalasia cardia.

(MCH 0821)

AUGUST 2021

Sub. Code: 1504

M.Ch. – CARDIO VASCULAR AND THORACIC SURGERY

**Paper IV – RECENT ADVANCES IN THORACIC AND CARDIO
VASCULAR SURGERY**

Q.P. Code: 181504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss in detail anatomy, physiological consequences and treatment of hypoplastic left heart syndrome.
2. Discuss the use of allografts in aortic and mitral valve disease.

II. Write notes on:

(10 x 7 = 70)

1. Bronchial artery embolisation.
2. Supra cardiac TAPVC (Total Anomalous pulmonary venous connection) management.
3. Myasthenia gravis.
4. ROSS-procedure indication and surgical technique.
5. Four (4) Year old child is brought to the hospital with breathlessness and mild stridor. Discuss diagnosis and management.
6. Techniques of aortic root enlargement.
7. Management of carotid artery stenosis in patient for coronary artery bypass grafting.
8. Rigid bronchoscopy.
9. Del-nido cardioplegia.
10. Megoun's stitch.

THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

(MCH 0822)

AUGUST 2022

Sub. Code: 1504

M.Ch. – CARDIO VASCULAR AND THORACIC SURGERY

Paper IV – RECENT ADVANCES IN THORACIC AND CARDIO VASCULAR SURGERY

Q.P. Code: 181504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Write in detail on indications, selection criteria and procedure for paediatric cardiac transplantation and write about prevention of graft rejection.
2. Write in detail on mechanical complications of coronary artery disease and management of Left Ventricular aneurysm.

II. Write notes on:

(10 x 7 = 70)

1. Bovine pericardial valves.
2. Prosthetic patches used in cardiac surgery.
3. Mitral and tricuspid valve rings.
4. Ventricular Assist Devices.
5. Myocardial perfusion imaging.
6. Walton Lillehi.
7. Mitraclip.
8. Role of Extra Corporal Membrane Oxygenator (ECMO) in COVID patients.
9. Endo bronchial valves.
10. Tunneled pleural catheters.

THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

(MCH 0124)

JANUARY 2024

Sub. Code: 1504

M.Ch. – CARDIO VASCULAR AND THORACIC SURGERY

PAPER IV – RECENT ADVANCES IN THORACIC AND CARDIO VASCULAR SURGERY

Q.P. Code: 181504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Discuss about etiopathogenesis, diagnosis and management of lung tumors.
2. Robotic and alternate port access approaches of coronary artery bypass grafting.

II. Write notes on: **(10 x 7 = 70)**

1. Indications for Device closure of ASD.
2. Speckle tracking Echocardiography.
3. FFR.
4. Indications and contra indications for permanent pacing both adults and children.
5. Celsior solution.
6. Various types of Aortic stents.
7. HRCT chest.
8. Codes and Modes of Pulse Generator.
9. Bivaluridin.
10. Carvedilol.

THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

(MCH 0824)

AUGUST 2024

Sub. Code: 1504

M.Ch. BRANCH I – CARDIO VASCULAR AND THORACIC SURGERY

**PAPER IV – RECENT ADVANCES IN THORACIC AND
CARDIO VASCULAR SURGERY**

Q.P. Code: 181504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss about the types of Interrupted aortic arch and the surgical management.
2. Discuss about the indications and management of Ventricular Assist devices.

II. Write notes on:

(10 x 7 = 70)

1. Surgical left ventricular restoration.
2. Indications for heart lung transplantation and post operative immunosuppression therapy.
3. Oxygen Dissociation curve.
4. Management of post operative air leak in lung resection.
5. Stentless valve.
6. Indications and contra indications of Video Assisted Thoracic Surgery.
7. Pericardial cyst.
8. Giant Left atrium.
9. Aortic valve repair.
10. Tranexamic acid.

THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

(MCH 0225)

FEBRUARY 2025

Sub. Code: 1504

M.Ch. BRACH I - CARDIO VASCULAR AND THORACIC SURGERY

**PAPER IV – RECENT ADVANCES IN CARDIOVASCULAR AND
THORACIC SURGERY**

Q.P. Code: 181504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Various techniques of aortic valve repair and write in detail on VSRR (Valve Sparing Root Replacement).
2. Transcatheter Valve Replacement.

II. Write notes on:

(10 x 7 = 70)

1. Management of carotid artery stenosis in patient for coronary artery bypass grafting.
2. Bo Yang technique.
3. Bio Glue.
4. Montgomery T Tube.
5. Venous vs Arterial Conduits in CABG.
6. Harlequin syndrome in ECMO.
7. Cine MRI.
8. Intra uterine fetal surgery in CDH.
9. Classification and grading of pulmonary rejection.
10. Retrograde cerebral perfusion.

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

(MCH 0825)

AUGUST 2025

Sub. Code: 1504

M.Ch. BRANCH I – CARDIO VASCULAR AND THORACIC SURGERY

**PAPER IV – RECENT ADVANCES IN THORACIC AND
CARDIO VASCULAR SURGERY**

Q.P. Code: 181504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Discuss etiopathogenesis, diagnosis and management of pericarditis.
2. Describe merits, demerits and uses of VA, VV, VAV – ECMO.

II. Write notes on: **(10 x 7 = 70)**

1. Endoluminal ultrasound.
2. Indications and contraindications for implantable cardioverter and defibrillator in both adults and children.
3. Congenital cardiovascular anomalies potentially amenable to prenatal intervention.
4. Perfadex solution.
5. Various types of coronary stents.
6. Lung and ultrasound study.
7. Pacing physiology of pulse generator.
8. IABP.
9. Transesophageal echocardiogram (TEE).
10. Radial Artery graft.
