

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

B. Short notes :

(10 × 5 = 50)

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.

- (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 Theory : 80 marks
forty minutes**

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 thoracoscopic 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

II. Short notes :

(10 × 5 = 50)

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'.

- (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 Theory : 80 marks
forty minutes**

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 Theory : 80 marks
forty minutes

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) IABP
- (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 eventeration.
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. | 11 | 35 | 15 |
| 2. A person has been posted for minimally invasive mitral valve replacement. Discuss the modifications in CPB and special equipment used. | 11 | 35 | 15 |

II. Write notes on :

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