

APRIL - 2001

[KD 060]

Sub. Code : 1851

M.Ch. DEGREE EXAMINATION

(Higher Specialities)

Branch VIII — Vascular Surgery

(Revised Regulations)

Paper I — BASIC SCIENCES APPLIED TO
VASCULAR SURGERY

Time : Three hours

Maximum : 100 marks

Answer ALL questions

1. Discuss haemodynamics, pathophysiology and management of arteriovenous fistulae. (25)
 2. What is critical limb ischaemia? Discuss aetiology, pathophysiology assessment and management of this condition. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) Physiological and Biological aspects of vascular grafts
 - (b) Smoking and Vascular diseases
 - (c) Role of Prostaglandin in Vascular surgery
 - (d) Radio nucleide angiography
 - (e) Role of free radicals in ischaemic limb.
-

NOVEMBER - 2001

[KE 060]

Sub. Code : 1851

M.Ch. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch VIII — Vascular Surgery

**Paper I — BASIC SCIENCES APPLIED TO
VASCULAR SURGERY**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Describe the anatomy of abdominal aorta and its major branches with illustrations. Give a detailed account of mesenteric collateral circulation. (25)
 2. Discuss aetio-pathogenesis of vascular diseases with particular emphasis to atherosclerosis. (25)
 3. Write short notes on : (5 × 10 = 50)
 - (a) Anatomy of great saphenous vein and its clinical uses
 - (b) Low molecular weight Heparin
 - (c) Major arterial collateral circulation around gluteal and knee regions
 - (d) Blood supply to spinalcord
 - (e) Atheroembolism.
-

MARCH - 2002

[KG 060]

Sub. Code : 185]

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VIII — Vascular Surgery

Paper I — BASIC SCIENCES APPLIED TO
VASCULAR SURGERY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Discuss the anatomy of extra cranial carotid and vertebral arteries including an account of their collateral circulation. (25)
2. Discuss physiology of coagulation and clinical pharmacology of anticoagulants and antiplatelet drugs in vascular practice. (25)
3. Write short notes on : (5 × 10 = 50)
 - (a) Collateral systemic venous circulation (to IVC) in abdomen.
 - (b) IO HEXOL.
 - (c) Myointimal hyperplasia.
 - (d) Anatomy of profundafemoris artery.
 - (e) Mesenteric Angina.

SEPTEMBER - 2002

[KH 060]

Sub. Code : 1851

M.Ch. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch VIII — Vascular Surgery

Paper I — BASIC SCIENCES APPLIED TO
VASCULAR SURGERY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Discuss the anatomy of the thoracic outlet and the management of thoracic outlet syndrome. (25)
 2. Discuss the aetiopathology of disseminated intravascular coagulation. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) An ideal vascular graft
 - (b) Riolan's arc
 - (c) Post phlebitic syndrome
 - (d) Myoglobinuria
 - (e) Collateral circulation around the knee joint.
-

AUGUST - 2004

[KL 060]

Sub. Code : 1851

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VIII — Vascular Surgery

**Paper I — BASIC SCIENCES APPLIED TO
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.

Draw suitable diagrams wherever necessary.

I. Essay :

(2 × 15 = 30)

(1) Discuss in detail the evaluation of a patient coming with the history of lower limb claudication.

(2) Discuss the aetiopathogenesis of aortic aneurysms.

II. Write short notes on :

(10 × 5 = 50)

(1) Alexis carrel

(2) Persistent sciatic artery

(3) Porosity of vascular grafts

(4) Ankle-brachial pressure index

(5) Ulnar nerve conduction velocity

(6) Shunting for carotid endarterectomy

(7) Fontaine classification of chronic leg ischaemia

(8) Classification of lymphoedema

(9) Oral anticoagulants

(10) Vascular complications of drug abuse.

AUGUST - 2006

[KP 060]

Sub. Code : 1851

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VIII — Vascular Surgery

**Paper I — BASIC SCIENCES APPLIED TO
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.

Draw suitable diagrams wherever necessary.

I. Essay :

**(1) Discuss Atherogenesis and importance of
intima - Media thickness in vascular surgery. (20)**

**(2) Discuss pathogenesis of venous ulceration
and natural course of venous hypertension. (15)**

**(3) Discuss the pathophysiological changes in
the chronic venous insufficiency. (15)**

II. Short notes :

(6 × 5 = 30)

- (a) Vascular wall calcification**
 - (b) Splenic artery Aneurysm**
 - (c) Brachial artery injuries**
 - (d) Pulse volume recordings**
 - (e) Hyper coagulability**
 - (f) Diabetes and lipids in relation to vascular
bypass.**
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August-2007

[KR 060]

Sub. Code : 1851

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VIII — Vascular Surgery

**Paper I — BASIC SCIENCES APPLIED TO
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. Long Essay :

1. Discuss in detail the functions of the intima of an artery. (20)
2. Discuss the etiopathogenesis of abdominal aortic aneurysm. (15)
3. Describe the anatomy of popliteal artery with reference to its surgical exposure. (15)

II. Short notes :

(6 × 5 = 30)

- (a) Porosity of vascular grafts.
 - (b) Fontaine classification chronic limb ischaemia.
 - (c) International Normalised Ratio. (INR)
 - (d) Complications of long-term Heparin Therapy.
 - (e) Diabetic Nephropathy.
 - (f) Development of Inferior vena cava.
-

August 2008

[KT 060]

Sub. Code: 1851

M.Ch. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch VIII – VASCULAR SURGERY

Paper I – BASIC SCIENCES APPLIED TO VASCULAR SURGERY

Q.P. Code: 181851

Time: Three hours

Maximum: 100 Marks

ANSWER ALL QUESTIONS

Draw suitable diagrams wherever necessary.

I. Essays: (2 x 20 = 40)

1. Discuss Genetic manipulations in vascular disease.
2. Discuss the anatomy and physiology of the autogeneous vein and techniques of vein graft preparation.

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

1. Development of lower extremity arterial system.
 2. Plaque morphology and evolution of atherosclerotic lesions.
 3. Physiological indices in assessment of PAOD.
 4. Types of plethysmography and significance in management of venous disorder.
 5. IA DSA.
 6. Direct thrombin inhibitors.
 7. Protamine sulphate.
 8. Role of prostaglandins in vascular surgery.
 9. CPRS.
 10. APLA syndrome.
-

August 2011

[KZ 060]

Sub. Code: 1851

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

BRANCH VIII – VASCULAR SURGERY

BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY

Q.P. Code:181851

**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 in detail about the etiopathogenesis and management of Takayasu's arteritis. | 11 | 35 | 15 |
| 2. Discuss in detail about the anatomy of arterial wall and thrombo modulation by endothelium. | 11 | 35 | 15 |

II. Write notes on :

- | | | | |
|-------------------------------------|---|----|---|
| 1. Anomalies of IVC. | 4 | 10 | 7 |
| 2. Unfractionated Heparin. | 4 | 10 | 7 |
| 3. Laplace law. | 4 | 10 | 7 |
| 4. Lipoprotein (a). | 4 | 10 | 7 |
| 5. Fondaparinux. | 4 | 10 | 7 |
| 6. Radiation Arteritis. | 4 | 10 | 7 |
| 7. Venous Aneurysms. | 4 | 10 | 7 |
| 8. Peroneal artery exposure. | 4 | 10 | 7 |
| 9. Persistent sciatic artery. | 4 | 10 | 7 |
| 10. Abdominal compartment syndrome. | 4 | 10 | 7 |

August 2009

[KV 060]

Sub. Code: 1851

MASTER OF CHIRURGIAE (M.Ch.) DEGREE EXAMINATIONS

(Super Specialities)

Branch VIII – VASCULAR SURGERY

(Revised Regulations)

Paper I– BASIC SCIENCES APPLIED TO VASCULAR SURGERY

Q.P. Code: 181851

Time: Three hours

Maximum: 100 Marks

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Essays:

(2 x 20 = 40)

1. Describe the anatomy and physiological features of the arterial wall and describe briefly the regulation of thrombosis by the endothelium.
2. Describe the anatomy and surgical exposure of the carotid bifurcation and internal carotid artery.

II. Write short notes on:

(10 x 6 = 60)

1. Platelet derived growth factor (PDGF).
2. Aprotinin.
3. Vitamin K dependent coagulation factors.
4. Protein C and Protein S.
5. Fibrous plaque.
6. Antioxidants.
7. Risk factors for atherosclerotic disease.
8. Expanded polytetrafluoroethylene graft.
9. Popliteal entrapment syndrome.
10. L arginine.

[LB 025]

AUGUST 2012

Sub. Code: 1851

M.Ch – VASCULAR SURGERY

Paper – I BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY

Q.P. Code: 181851

**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. Describe the anatomy of abdominal aorta and its major Branches with illustrations. Give a detailed account of Mesenteric-collateral circulation. | 16 | 35 | 15 |
| 2. Discuss the Hemodynamics, patho physiology and Current management of Arterio-Venous Fistula. | 16 | 35 | 15 |

II. Write notes on:

- | | | | |
|--|---|----|---|
| 1. Exposure of left Subclavian Artery. | 4 | 10 | 7 |
| 2. Anatomy of Deep-Femoral Artery. | 4 | 10 | 7 |
| 3. Popliteal Artery Aneurysms. | 4 | 10 | 7 |
| 4. Persistent Sciatic Artery. | 4 | 10 | 7 |
| 5. Blood Supply to Spinal Cord. | 4 | 10 | 7 |
| 6. Smoking and Vascular Disease. | 4 | 10 | 7 |
| 7. Anatomy and importance of arches of the foot. | 4 | 10 | 7 |
| 8. Surgical exposure of Peroneal Artery. | 4 | 10 | 7 |
| 9. Graft surveillance. | 4 | 10 | 7 |
| 10. Pharmacology of Fonda. | 4 | 10 | 7 |

M.Ch. – VASCULAR SURGERY
Paper – I BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY
Q.P.Code: 181851

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X15=30)

1. Biology of arterial wall and discuss in detail endothelial dysfunction and chemical mediators.
2. Non invasive arterial physiologic assessment in vascular laboratory.

II. Write notes on:

(10X7=70)

1. Development of Abdominal Aorta.
2. Persistent Sciatic Artery.
3. Collateral pathways in Aorto iliac occlusion.
4. Calf Muscle pump.
5. Trans Cranial Doppler.
6. Anatomy of Circle of Willis.
7. Reperfusion Injury.
8. Intra Vascular Ultra Sound.
9. Intimal Hyperplasia.
10. N-acetyl cysteine.

[LH 025]

AUGUST 2015

Sub. Code: 1851

M.Ch. – VACULAR SURGERY

PAPER I – BASIC SCIENCES AS APPLIED TO VACULAR SURGERY

Q.P.Code: 181851

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 15 = 30)

1. Classify Dyslipidemia. Discuss the management of Dyslipidemia.
2. Discuss the arterial diseases caused by viruses and their management.

II. Write notes on :

(10 x 7 = 70)

1. Vascular tumours in childhood and their treatment.
2. Vascular steal phenomenon.
3. Vascular pain syndromes.
4. Thoracic sympathectomy.
5. Gadolinium.
6. Contrast induced Nephropathy and its prevention.
7. High Density Lipoprotein.
8. Anastomoses around the shoulder joint.
9. Popliteal Entrapment Syndrome.
10. Salmonella infections causing arterial diseases.

(LJ 025)

AUGUST 2016

Sub. Code:1851

M.Ch. – VASCULAR SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY

Q.P.Code: 181851

Time: Three Hours

Maximum: 100 Marks

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

1. Classify Anticoagulants. Discuss the Management of Acute Deep Vein Thrombosis of the Lower Limb.
2. Discuss the Congenital Arch of Aorta Anomalies and the Spectrum of the Diseases Due to these Anomalies.

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

1. Hyper Triglyceridemia.
2. Glomus Tumour and Differential Diagnosis.
3. Non Invasive Investigation in Renovascular Hypertension.
4. Low Molecular Weight Dextran.
5. MRSA Infection in Vascular Patient.
6. Disseminated Intra Vascular Coagulation.
7. Regional Anaesthesia in Vascular Surgery.
8. Duplex Scan in Arterial Disease.
9. Hemodynamic Changes Following Supra Celiac Aortic Cross Clamping.
10. Etiopathology of Aorto Arteritis.

M.Ch. – VASCULAR SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY

Q.P.Code: 181851

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe the surgical anatomy of collateral circulation around the hip joint and discuss various investigation techniques to evaluate chronic arterial insufficiency in lower limb and its management.
2. Discuss the management of an infected aorto femoral graft.

II. Write notes on:

(10 x 7 = 70)

1. Graft infection.
2. Claudication.
3. Phlegmasia cerulean dolens.
4. Sclerosants in vascular surgery.
5. Ambulatory venous hypertension.
6. LMWH v/s UFH (Low Molecular Weight Heparin versus unfractionated Heparin).
7. Physiological effects of AV fistulas.
8. Non ionic contrast.
9. Role of sympathectomy in TAO (Thrombo Angitis Obliterans).
10. Vascular impotence.

(LN 025)

AUGUST 2018

Sub. Code: 1851

M.Ch. – VASCULAR SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY

Q.P.Code: 181851

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Classify the thrombolytic agents. Discuss the merits and demerits in clinical application.
2. Discuss the aetiopathogenesis of Atherosclerosis. Classify the atherosclerotic plaques and their complications.

II. Write notes on:

(10 x 7 = 70)

1. Exposure of Left Subclavian Artery.
2. Primary Lymphoedema.
3. Prasugrel.
4. Immunoglobulins in Vascular diseases.
5. Collagenase.
6. Nitric Oxide.
7. Perforators incompetence.
8. Vascular manifestations of AIDS.
9. Marfan's syndrome.
10. D-Dimer.

(LP 025)

AUGUST 2019

Sub. Code: 1851

M.Ch. – VASCULAR SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY

Q.P. Code: 181851

Time: Three Hours

Maximum: 100 Marks

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

1. Classify Antithrombotics. Discuss the Management of Acute Arterial Thrombosis.
2. Etiopathology, Classification and Principles of Management of AVMs.

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

1. Acute Phase Reactants.
2. Etiopathology of Budd Chiari Syndrome.
3. Duplex of Venous Disease.
4. Nut Cracker Syndrome.
5. Pulmonary Function Tests.
6. Stress Echo.
7. Tranexamic Acid.
8. Ischemic Preconditioning.
9. Etiopathology of TAO.
10. Chelation Therapy.

(LR 025)

**NOVEMBER 2020
(AUGUST 2020 SESSION)**

Sub. Code: 1851

M.Ch. – VASCULAR SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY

Q.P. Code: 181851

Time: Three Hours

Maximum: 100 Marks

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

1. Classify arteritis. Etiopathogenesis and its management.
2. Discuss the pathogenesis and management of intimal hyperplasia.

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

1. IVC anomalies
2. Retroperitoneal vascular zones
3. Klippel Trenaunay syndrome
4. Lymphoscintigram
5. Venous gangrene
6. Endarterectomy
7. Obturator bypass
8. McCleery syndrome
9. Etiology and types of popliteal entrapment syndrome
10. Homozygous familial hypercholesterolemia

(MCH 0821)

AUGUST 2021

Sub. Code: 1851

M.Ch. – VASCULAR SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY

Q.P. Code: 181851

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe the etiopathogenesis, clinical manifestations and management of Takayasu's arteritis.
2. Describe the cardiovascular effects of cigarette smoking and elaborate smoking cessation therapies.

II. Write notes on:

(10 x 7 = 70)

1. Renal vein anomalies.
2. Prostacyclin.
3. Plethysmography.
4. Complex decongestive therapy for lymphedema.
5. Clinical scoring system for chronic venous insufficiency.
6. Diabetic foot.
7. Heparin induced thrombocytopenia.
8. Vascular manifestations of APLA syndrome.
9. Hypothenar hammer syndrome.
10. Chronic exertional compartment syndrome.

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

[MCH 0222]

FEBRUARY 2022

Sub.Code :1851

M.Ch. – VASCULAR SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY

Q.P. Code: 181851

Time: Three Hours

Maximum: 100 Marks

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

1. Classify Congenital Vascular malformations. Discuss the management of Low –Flow Vascular malformations.
2. Hard and Soft signs in vascular trauma. Discuss the management of posterior dislocation of knee joint with distal limb ischemia in a young adult.

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

1. Vitamin K antagonist.
2. Atherosclerotic plaque.
3. C-Reactive protein.
4. Cilastazole.
5. Fasciotomy.
6. Lipoprotein –a.
7. Topical Hemostatic agents.
8. Vascular Steal.
9. L-Arginine.
10. Aberrant Subclavian artery.

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

(MCH 0822)

AUGUST 2022

Sub. Code: 1851

M.Ch. – VASCULAR SURGERY

Paper I – BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY

Q.P. Code: 181851

Time: Three Hours

Maximum: 100 Marks

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

1. Embryological development of lower limb arteries and discuss about persistent sciatic artery.
2. Anatomy and various functions of endothelium and discuss about endothelial dysfunction.

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

1. Shear stress.
2. Thrombotic complications of Atherosclerosis.
3. Healing response of the prosthetic grafts and its complications.
4. Pre operative cardiac risk assessment.
5. Pathophysiology of renovascular hypertension.
6. Pathophysiological effects of arteriovenous fistula.
7. Biomechanics of foot.
8. Elastography.
9. Blood supply of spinal cord and its collaterals.
10. Calf muscle pump.

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

(MCH 0124)

JANUARY 2024

Sub. Code: 1851

M.Ch. – VASCULAR SURGERY

PAPER I – BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY

Q.P. Code: 181851

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Classification and congenital anomalies of Aortic arch.
2. Structure and functions of vessel wall, artery, vein and lymphatic's.

II. Write notes on:

(10 x 7 = 70)

1. Selecting amputation level.
2. Ambulatory venous pressure.
3. Chronic Exertional Compartment syndrome.
4. Natural anticoagulants.
5. Spinal arteries.
6. ADP receptor antagonist.
7. Ischemic reperfusion injury.
8. C-Reactive protein.
9. Tranexamic acid.
10. Diagnosis of DVT.

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

(MCH 0225)

FEBRUARY 2025

Sub. Code: 1851

M.Ch. BRACH VIII – VASCULAR SURGERY

PAPER I – BASIC SCIENCES AS APPLIED TO VASCULAR SURGERY

Q.P. Code: 181851

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

(8+7)

1. a) Surgical anatomy of thoracic outlet.
b) Discuss the anatomical changes that happen in the thoracic outlet due to type 1 cervical rib.
2. a) Duplex ultrasound in the evaluation of arterial disease components of duplex ultrasound, formation of image, types of transducers and their role.
b) Duplex ultrasound in the management of arterial disease.

(7+8)

II. Write notes on:

(10 x 7 = 70)

1. Mechanism of action of endovenous laser ablation and different types of lasers used in endovenous laser ablation.
2. Mechanism of action of Apixaban and clinical use.
3. What is the International Normalised Ratio and clinical application?
4. Explain the 'p' value in biostatistics and its role in evaluating a study.
5. Contrast agents used in endovascular practice.
6. Radiation and the vascular surgeon.
7. Provocative tests to unmask neurogenic thoracic outlet syndrome.
8. Carotid plaque morphology.
9. Vascular endothelial growth factor.
10. Ankle brachial pressure index.
