

MARCH 1990

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M.S. DEGREE EXAMINATION, MARCH 1990.

Branch I — General Surgery

Part I

APPLIED BASIC SCIENCES

(Common to Branch II — Orthopaedic Surgery)

Part I - Paper I

Time : Three hours.

Each Section should be answered in separate answer book.

SECTION A — ANATOMY

Answer any TWO questions.

1. Describe the surgical anatomy of the thyroid gland. Describe its development and blood supply.
2. Describe the surgical anatomy of the spleen.
3. Write notes on :
 - (a) Deep palmar spaces.
 - (b) Femoral canal.

SECTION B — PHYSIOLOGY

Answer any ONE question.

4. Outline the pancreatic function tests and their importance in surgery.
5. Write briefly on :
 - (a) Maximal acid output.
 - (b) Gall stone formation.

SECTION C — BIOCHEMISTRY

Answer any ONE question.

6. Discuss the surgical importance of gut hormones
7. Write briefly on :
 - (a) Total parenteral nutrition.
 - (b) Potassium depletion.

SECTION D — PATHOLOGY

Answer any ONE question.

8. Describe the surgical pathology and spread of renal carcinoma.
9. Write notes on :
 - (a) Immunohistochemistry.
 - (b) Frozen section biopsy.

SECTION E — MICROBIOLOGY

Answer any ONE question.

10. Discuss anaerobic infections in surgery.
11. Describe the laboratory diagnosis and surgical manifestations of actinomycosis.

SECTION F — PHARMACOLOGY

Answer any ONE question.

12. Discuss anti-tubercular drug therapy.
13. Write briefly on :
 - (a) Ranitidine.
 - (b) Neomercazole.

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Branch I — General Surgery

Part I

APPLIED BASIC SCIENCES

(Common to Branch II — Orthopaedic Surgery
Part I — Paper I)

Time : Three hours.

Each Section should be answered in separate answer books.

SECTION A — (ANATOMY)

Answer any TWO questions.

1. Describe the Surgical Anatomy of the Kidney and outline its development.
2. Describe the surgical anatomy of subphrenic spaces.
3. Write notes on :
 - (a) Genu Valgum.
 - (b) Patent Ductus Arteriosum.

SECTION B — (PHYSIOLOGY)

Answer any ONE question.

4. Outline the Thyroid function tests.

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5. Write briefly on :
- (a) Lower Esophageal Sphincter.
 - (b) Oliguria.

SECTION C — (BIOCHEMISTRY)

Answer any ONE question.

6. Discuss the biochemical problems in Diabetic Ketoacidosis.
7. Write briefly on :
- (a) H_2 antagonists.
 - (b) Catecholamines.

SECTION D — (PATHOLOGY)

Answer any ONE question.

8. Describe the pathology of malignant tumours of bone.
9. Write briefly on :
- (a) Fine needle aspiration cytology.
 - (b) Dry gangrene.

SECTION E — (MICROBIOLOGY)

Answer any ONE question.

10. Discuss monitoring and diagnosis of post-operative infection.

11. Write briefly on :
- (a) Acid fast bacilli.
 - (b) Gram negative septicaemia.

SECTION F — (PHARMACOLOGY)

Answer any ONE question.

12. Discuss antithyroid drugs.
13. Write briefly on :
- (a) Lugol's Iodine.
 - (b) Cyclosporine.

M.S. DEGREE EXAMINATION, MARCH 1991.

Branch I — General Surgery

Part I

APPLIED BASIC SCIENCES

(Common to Branch II — Orthopaedic Surgery — Part I —
Paper I)

Time : Three hours.

Each Section to be answered in a separate book.

SECTION A — (ANATOMY)

Answer any **TWO** questions.

1. Discuss the surgical anatomy, including development of the thyroid gland and the parathyroids.
2. Discuss the surgical anatomy of the hip joint.
3. Write notes on :
 - (a) Midpalmar space.
 - (b) Dentate line.

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SECTION B — (PHYSIOLOGY)

Answer any ONE question.

4. Discuss the functions of the liver.
5. Write briefly on :
 - (a) Kidney function tests.
 - (b) The role of parasympathetic nervous system.

SECTION C — (BIOCHEMISTRY)

Answer any ONE question.

6. Discuss the biochemical problems in maintaining a patient on parenteral nutrition.
7. Write briefly on :
 - (a) Milk-Alkali syndrome.
 - (b) 5-hydroxy tryptamine.

SECTION D — (PATHOLOGY)

Answer any ONE question.

8. Discuss multiple Endocrine Neoplasia.
9. Write briefly on :
 - (c) Cystic mammary dysplasia.
 - (b) Pathology of the solitary thyroid nodule.

SECTION E — (MICROBIOLOGY)

Answer any ONE question.

10. Discuss the life cycle of *Taenia Echinococcus*, and mention the lesions found in man.
11. Write briefly on :
 - (a) *Clostridium tetani*.
 - (b) Role of prophylactic antibiotics in surgery.

SECTION F — (PHARMACOLOGY)

Answer any ONE question.

12. Classify anti-malignant chemotherapeutic agents, with special mention of recent advances.
13. Write notes on :
 - (a) Acetyl salicylic acid.
 - (b) Ketamine.

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M.S. DEGREE EXAMINATION, MARCH 1992

Branch I — Part I

APPLIED BASIC SCIENCES

(Common to Branch II — Orthopaedics)

Time : Three hours.

Use separate answer books for each Section.

SECTION A

(ANATOMY)

Answer any TWO questions.

1. Diagrammatic representation of structures entering the hilum of Right lung.
2. Describe the anatomy of Urethra and Prostate.
3. Short notes on :
 - (a) Perforators of the leg
 - (b) Development of thyroid and its anomalies.

SECTION B — (PHYSIOLOGY)

Answer any ONE question.

4. Describe the structure and functions of Juxta Glomerular apparatus ?
5. What is exophthalmos ? and how is it produced ?

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BIOCHEMISTRY

Answer any ONE question.

6. What are the laboratory findings in a case of obstructive Jaundice.
7. Short notes on :
 - (a) Serum Alkaline Phosphatase
 - (b) Gastric tetany.

SECTION D — (PATHOLOGY)

Answer any ONE question.

8. What are complications of Typhoid fever ?
9. Mycetoma.

SECTION E — (MICROBIOLOGY)

Answer any ONE question.

10. Short notes on :
 - (a) Malignant pustule.
 - (b) Negri bodies.
11. Describe briefly :
 - (a) B.C.G. Vaccine
 - (b) Functions of Immunoglobulins.

SECTION F — (PHARMACOLOGY)

Answer any ONE question.

12. What are drugs used in treatment of non-specific diarrhoea.
13. Uses and misuses of drugs used in the treatment of non-specific diarrhoea.

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M.S. DEGREE EXAMINATION

Branch II - Orthopaedic Surgery

(Old/New/Revised Regulations)

Part I

Paper I - APPLIED BASIC SCIENCES

Time: Three hours

Max.marks:180

Answer All Questions

Answer each subject in a separate answer
book

All questions carry equal marks.

Write short notes:

ANATOMY

1. Clinical anatomy of ossification of femur
2. Types of cartilage
3. Presence of cervical rib in different forms and their effects
4. Gross anatomical features of the fifth lumbar vertebra.

PHYSIOLOGY

1. Composition of ECF and its importance
2. Coagulation pathways
3. Vasoconstrictor mechanisms
 - . Proteins of muscle.

BIOCHEMISTRY

9. Types of collagen.
10. Diagnostic importance of enzyme
11. Hormones regulating calcium levels
12. Vitamin K - dependant peptides.

PHARMACOLOGY

13. Spinal anaesthetics
14. Clindamycin
15. Diclofenac sodium
16. Cisplatin.

PATHOLOGY

17. Dermatomyositis
18. Spread of tumours
19. Osteogenesis imperfecta
20. Plasmacytoma.

MICROBIOLOGY

21. Post operative infections
22. Allograft rejection
23. Tuberculous arthritis
24. Mycetoma.

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M.S. DEGREE EXAMINATION

Branch II - Orthopaedic Surgery
(Revised Regulations)

Part I

Paper I - APPLIED BASIC SCIENCES

Time: Three hours

Max. marks:180

Answer each subject in a separate
answer book.

Answer any FOUR questions in each subject

Write briefly on each topic.

All questions carry equal marks.

ANATOMY

1. Abduction of shoulder joint
2. Medial meniscus of knee joint
3. Space of Denonvilliers
4. Plantar aponeurosis
5. Sclerotome.

PHYSIOLOGY

6. Bone remodelling
7. Excitation-contraction coupling
8. Platelet functions
9. Motor unit
10. Calcitriol.

BIOCHEMISTRY

11. Fructose
12. Multiple myeloma
13. Alkaline phosphatase
14. Hydroxy proline
15. Types of collagen.

PHARMACOLOGY

16. Pethidine
17. Atropine substitutes
18. Oral penicillins
19. Human insulin
20. Hydrocortisone.

PATHOLOGY

21. Granulomatous inflammation
22. Pathogenesis of thrombus
23. Causes of delay in wound healing
24. Precancerous lesions
25. Osteogenesis imperfecta.

MICROBIOLOGY

26. Immuno pathogenesis of rheumatic arthritis
27. T Lymphocytes
28. Mycetoma
29. Mycobacterial infections of bones and joints.
Sterilisation by moist heat.

[SV 203] **APRIL 1998**

M.S. DEGREE EXAMINATION.

Branch II — Orthopaedic Surgery — Part I

(Old/New/Revised Regulations)

Paper I — APPLIED BASIC SCIENCES

Time : Three hours

Maximum : 100 marks

Answer each subject in a separate answer book.

Answer any FOUR questions in each subject.

All questions carry equal marks.

ANATOMY

1. Blood supply to head of femur.
2. Conjoint rotations.
3. Epiphysis of long bone.
4. Abduction at shoulder joint.
5. Meralgia paraesthetica.

PHYSIOLOGY

6. Calcitonin.
7. Neuromuscular transmission.
8. Short term regulation of blood pressure.
9. Oxygen dissociation curve.
10. Water diuresis.

BIOCHEMISTRY

11. Metabolic acidosis.
12. Vitamin C and collagen.

13. Actions of Vitamin K.
14. Action of insulin on blood glucose level.
15. Diagnostic importance of enzymes.

PHARMACOLOGY

16. Halogenated inhalational general anaesthetics.
17. Anti pseudomonal penicillins.
18. Third generation cephalosporins.
19. Insulin 'pump' therapy.
20. Ketorolac.

PATHOLOGY

21. Pathological calcification.
22. Spread of tumours.
23. Chemical mediators in acute inflammation.
24. Causes of oedema.
25. Mechanism of repair of tissue.

MICROBIOLOGY

26. Gonococcus.
27. Hot air oven.
28. Drug resistance.
29. Nosocomial infections.
30. Autoimmunity.

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M.S. DEGREE EXAMINATION,

Branch II — Orthopaedic Surgery — Part I

(Old/New/Revised Regulations)

Paper I — APPLIED BASIC SCIENCES

Time : Three hours

Maximum : 180 marks

Answer each subject in a separate answer book.

Answer any FOUR questions in each subject.

All questions carry equal marks.

1. Anatomy :

- (a) Blood supply of Head of Femur.
- (b) Movement at Ilio Tibial tract.
- (c) Endochondral ossification.
- (d) Tennis elbow.
- (e) Epiphysis.

2. Physiology :

- (a) Tissue rejection.
- (b) Factors controlling growth and development.
- (c) Osteoporosis.
- (d) Causes of post traumatic swelling.
- (e) Shock.

3. Biochemistry

- (a) Vitamin D₃
- (b) Bence-Jones protein.
- (c) Paget's disease.
- (d) Synovial fluid.
- (e) Alkaline phosphatase.

4. Pharmacology :

- (a) Anti inflammatory action of aspirin.
- (b) Pentothol sodium.
- (c) Therapeutic uses of glucocorticoids in relation to bone and joint.
- (d) Chemo prophylaxis in operative procedures.
- (e) Doxorubicin.

5. Pathology :

- (a) Healing of wound by secondary union.
- (b) Metastatic calcification.
- (c) Gas gangrene.
- (d) Osteoclastoma.
- (e) Tumour markers.

6. Microbiology :

- (a) Bacterial agents of osteomyelitis.
- (b) Human Immuno deficiency virus.
- (c) Disinfection.
- (d) Mycetoma of foot.
- (e) Sterilization of sharp instruments.

M.S. DEGREE EXAMINATION.

Branch II — Orthopaedic Surgery — Part

(Old/New/Revised Regulations)

Paper I — APPLIED BASIC SCIENCES

Time : Three hours

Maximum : 180 marks

Answer each subject in a separate answer book.

Answer any FOUR question in each subject.

All questions carry equal marks.

1. Anatomy

- (a) Menisci of knee joint
- (b) Congenital Talipes equinovarus
- (c) "Carrying Angle" and its clinical importance
- (d) Avascular necrosis of head of Femur
- (e) Arches of foot.

2. Physiology

- (a) Haemorrhagic shock
- (b) Role of Hormones in regulation of serum calcium level
- (c) Synaptic transmission
- (d) Smooth muscle contraction
- (e) Functions of Liver.

3. Biochemistry

- (a) Functions of Vitamin K
- (b) Regulation of blood calcium level
- (c) Balanced diet
- (d) Metabolic acidosis
- (e) Liver function tests.

4. Pharmacology

- (a) Indomethacin
- (b) Actions and uses of Calcitriol
- (c) Melphalan
- (d) Tetracyclines
- (e) Balanced anaesthesia

5. Pathology

- (a) Osteomalacia
- (b) Fibrous Dysplasia of bone
- (c) Ischemic necrosis of bone
- (d) Chronic inflammation
- (e) Pathology of shock.

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Sub. Code : 9000

M.S. DEGREE EXAMINATION

(Old/New/Revised Regulations)

Branch II — Orthopaedic Surgery — Part I

Paper I — APPLIED BASIC SCIENCES

Time : Three hours

Maximum : 180 marks

Answer each subject in a separate answer book.

Answer any FOUR questions in each subject

All questions carry equal marks

1 Anatomy :

- (a) Carpal tunnel syndrome
- (b) Adductor tubercle
- (c) Gross anatomical features of patella
- (d) Porters syndrome (Winging of Scapula)
- (e) Foot drop.

2. Physiology :

- (a) Hydroxy apatite crystals
- (b) Tests for coagulation of blood
- (c) Effects of exercise on cardio vascular and respiratory system
- (d) Hormones involved in stress conditions
- (e) Effects of Haemorrhage.

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- 3 Biochemistry
- (a) Regulation of blood sugar
 - (b) Action of Vitamin C
 - (c) Enzymes used for diagnostic purposes
 - (d) Creatinine clearance
 - (e) Hyper parathyroidism
- 4 Pharmacology
- (a) Ketamine
 - (b) Methotrexate
 - (c) Antiseptics
 - (d) Immunosuppressants in the treatment of disorders of bones and joints
 - (e) Clindamycin
- 5 Pathology :
- (a) Rickets
 - (b) Pagets disease
 - (c) Repair of Fractures
 - (d) Aneurysmal Bare Cyst
 - (e) Adamantinoma
- 6 Microbiology :
- (a) Staphylococcus Au
 - (b) Mycobacterium tu ulos
 - (c) Pneumococci
 - (d) Wound infection
 - (e) Laboratory diagno

[KB 203] **APRIL 2000** **Sub. Code : 9000**

M.S. DEGREE EXAMINATION.

(Old/New/Revised Regulations)

Branch II — Orthopaedic Surgery — Part

Paper I — APPLIED BASIC SCIENCES

Time : Three hours Maximum : 180 marks

Answer each subject in a separate answer book

Answer any FOUR question in each subject.

All questions carry equal marks

(ANATOMY)

1. (a) Pivot joints
- (b) Brachial plexus
- (c) Subtalar joint
- (d) Bursae around the Knee
- (e) Intervertebral disc

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(PHYSIOLOGY)

2. (a) Role of bone in Calcium Homeostasis
(b) Cushing's syndrome
(c) Skeletal Muscle Tone
(d) Physiological Basis for short stature
(e) Excitation — Contraction coupling

(BIOCHEMISTRY)

3. (a) Mechanism of bone mineralisation
(b) Renal Osteo dystrophy
(c) Composition and functions of Synovial fluid
(d) Marfan's syndrome
(e) Urinary Hydroxy proline.

(PHARMACOLOGY)

4. (a) Succinyl choline
(b) Piroxicam
(c) Intra-articular corticosteroids
(d) Cyclophosphamide
(e) Sulindac.

(PATHOLOGY)

5. (a) Lymphedema
(b) Fate of Thrombus
(c) Fine Needle Aspiration Cytology (F.N.A.C.)
(d) Tumour markers
(e) Rickets.

(MICROBIOLOGY)

6. (a) Control of Hospital Infection
(b) Actinomycotic bone infections
(c) R.A. Factor
(d) Bacteriology of gas gangrene
(e) Fungal infections of bone.
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Sub. Code : 9000

M.S. DEGREE EXAMINATION.

(Old/New/Revised Regulations)

Branch II — Orthopaedic Surgery — Part I

Paper I — APPLIED BASIC SCIENCES

Time : Three hours

Maximum : 180 marks

Answer each subject in a separate answer book.

Answer any FOUR question in each subject.

All questions carry equal marks.

1. Anatomy

(a) Saddle joint

(b) Nerve involved in the Fracture of Middle third of Humerus

(c) Joints of the thumb

(d) Fracture of fibula

(e) Ossification of vertebra.

2. Physiology

(a) Hormonal regulation of Bone growth

(b) Osteoporosis

(c) Dermatome

(d) Nitric oxide

(e) Artificial respiration.

3 Biochemistry

(a) Organic nature of the bone

(b) Chemical composition and functions of cartilage

(c) Nutritional factors in Osteoporosis

(d) Effect of chronic Renal disease on bone

(e) Anabolic hormones of the bone.

4 Pharmacology

(a) Methotrexate

(b) Neuromuscular blocking agents

(c) Intravenous anaesthetics

(d) Prednisolone

(e) Vitamin D

5 Pathology

(a) C.V.C. liver

(b) Fat embolism

(c) Trophic ulcer

(d) Physical carcinogens

(e) Tuberculous osteomyelitis

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- 6 Microbiology
- (a) Immunology of Rheumatoid Arthritis
 - (b) Gonococcal arthritis
 - (c) IgA
 - (d) Chemical methods of sterilisation
 - (e) Bone marrow smear in the diagnosis of
Parasitic infections.