

**SYLLABUS FOR
M.S. ORTHOPAEDIC SURGERY**

SCHEME OF EXAMINATION

3 Years Course :

Part – I (At the end of First Year)

Theory	Title	Duration In Hours	Maximum Marks
Paper – I	Applied Basic Sciences	3	100

50% Marks in University Theory Examination to qualify for a Pass

Part –I I (At the end of third Year)

Theory	Title	Duration In Hours	Maximum Marks
Paper – I	Traumatology	3	100
Paper – II	Orthopaedics	3	100
Paper – III	Recent advances in Traumatology and Orthopedic Surgery & Rehabilitation	3	100

Question paper pattern

2 Essayas	2 X 20	=	40
6 Short Notes	6 X 10	=	60
	Total	=	100

Clinical & Voce :

Clinical - Total 200 Marks

					Marks	
Long Cases	-	1	-	1 Hour	-	80
Short Cases	-	3	-	45 Minutes	-	120
				Total	-	200
						100

Orals - 100

Recent Advances in Orthopaetic Surgery & Dermatology	-	10
X-rays, CT Scan, MRI Scan	-	10
Instruments – Basic Instruments & Implants in Sine Joint Replacements	-	10
Surgical Procedure	-	15
Pathological Specimen	-	05
Histopathological Slide	-	05
Demonstration of Clinical Tests	-	05
Prosthetics & Orthotics, Image Identification (10 + 10)	-	20
Log book	-	20
Total	-	100

Marks Qualifying for Pass

				Marks	
				Max	Min (To pass)
Part I	-	Theory	-	100	50
Part II	-	Theory	-	300	150
		Clinical	-	200	100
		Viva	-	100	----
		Aggregate of 2 +3	-	300	150
		Total		600	

Special Postings

- Paediatric Orthopaedic surgery – 1 month
- Plastic surgery - 15 days
- Rehabilitation - 15 days
- Radio Diagnosis - 15 days

Dissertation in Ortho has to submitted to the University 6 Months before proposed University Examination after getting approval from HOD.

Each student has to submit 4 copies :-

1. One copy to University
2. One copy to Library
3. One copy to Department
4. One copy for the Candidate

It should be approved by External and Internal Examiners

Log Book – Containing – Surgeries done (or) assisted has to be maintained which will be periodically scrutinized by the Department.

SYLLABUS FOR APPLIED BASIC SCIENCES - PART I

Anatomy :

- Cell Biology
- Genetics
- Elementary Embryology
- Bone Structure
- Anatomy of Joints

Physiology :

- Water and Electrolyte Metabolism
- Acid – base regulation
- Renal & Hepatic Functions
- O₂ & CO₂ Transport Mechanism
- Heart rate, Blood pressure
- Regional Blood Flow
- Lung Functions
- Renal Functions
- Haemorrhage, Thrombosis, Clotting Mechanism / Pathway
- Shock mobilism, DIC
- Physiological response to Trauma
- Exercise Physiology
- Fracture Healing
- Physiology of Nerve Conduction & Muscle Functions, NCS, EMG

Bio – Chemistry :

Protein, Fat, Carbohydrate & Calcium Metabolism and Chemical Transmission of Nerve impulses

Pathology :

General Pathology related to inflammations, infections, Wound Healing – Stages and Neoplasia – Biopsy Techniques

Pharmacology

Principles of Actions of Drugs and Principles governing the use of commonly administered Anesthetic, Analgesic, Anti – inflammatory drugs, Antibiotic, Antimicrobial agents, Anti – TB Drugs used against Retrovirus.

Microbiology

General Principles of Microbiology Immunology

Principles of Dietetic & Nutrition

Elementary Biostatistics & epidemiology

Psycho – Social Problems in Ortho Surgery

Sterilization Procedures, Antiseptics

Microbiology of Common Pathogens causing Orthopaedic Infections

Orthopaedic Surgery – Part – II

Each Candidate will be examined by Theory, Clinical & VIVA 0 – Voce to assess the sound knowledge of Principles & Practice of Orthopaedics.

Candidate should have adequate knowledge, skill & competence in diagnosing and treating a patient appropriately whether it is emergency (or) elective case with good results.

Sound Knowledge of various laboratory investigations and other diagnostic procedures like Arthroscopy is expected out of each and every candidate.

Should be aware of interpretation of CT, MRI, Bone Scan / Dexa Scan

In Clinical Examination, Candidate is expected to demonstrate Proficiency in Physical examinations, Clinical Diagnosis & Discussing various modalities of treatment after evaluating Clinically, Radiologically with appropriate laboratory Parameters in arriving at the diagnosis.

ORTHOPAEDIC SURGERY PART II

Syllabus : Traumatology :

- Fractures and Dislocations including Mechanism of Violence causing injury – their signs and symptoms, methods of reduction, maintenance of reduction, management surgical & complication early – late.
- Pathology, Stages of Fracture Healing
- Various methods of internal fixations of Extra & intra articular fractures- lating / nailing / fixators.
- Current concepts in internal fixation & arthrodesis
- Arthroscopy – Diagnostic & interventional & Surgeries on Spine
- Sprains – Mechanism of Production, Pathology management
- Peripheral Nerve injuries & Evaluation, rehab and management

- Spinal cord injuries – Mechanism of Injury signs & Symptoms investigations including Electro diagnosis, splinting, bracing and Rehabilitation
- Other Soft Tissue Injuries (Muscle / tendon)
- Compound Fractures – Classifications, Management – Emergency & later definitive treatment / complications, management of complication
- Vascular / Neurological Complications

General Orthopaedics

Deformities :

- Congenital and acquired – Pathomechanics, Clinical Features – Treatment – Conservative – Manipulation Bracing, Splinting & Surgical Treatment – Rehabilitation

Osteoarticular Tuberculosis :

- Bacteriology – Pathology – Symptomatology – Investigation, Diagnosis – Management – Conservative & Surgical

Infections :

- Bacteriology – Pathology – Types – Clinical Features & Management in Acute, Subacute & Chronic

Arthritis :

- Study of various types – Infective, Rheumatoid, Degenerative, crystalline Metabolic – Signs & Symptoms – Management

Tumors :

- Benign & Malignant – Osseous & Soft Tissue – Pathogenic – Histopathology – Investigations – Management / staging / Role of radio & chemo management of secondaries therapy from other primary sites.

Metabolic disorders :

- Involving Skeletal Systems
Ca / ph / thyroid / parathyroid

Neuromuscular Disorders :

- Polio, Ep – Muscular Dystrophies, Obstetrical Palsy and other types of brachial plexus injuries – Etiology, Patho Physiology, Clinical types – Splinting Bracing, Physiotherapy, Surgical Interaction

Physical Medicine & Rehabilitation:

- Principles of Physical Therapy including Exercise Therapy, electrotherapy, Splint & Brace Prescription

Prosthetics & Orthotics :

- Principles of Amputation Surgery & Prescription of Appropriate Orthosis & Prosthesis early post OP prosthetic mobilization

Total Rehabilitation :

- Medical Educational, Vocational, Social Rehabilitation

Post – Graduate Students are supposed to attend Ortho OPD, 24 Hours Fracture Clinic, Ortho ward and Operation Theatre regularly and to gain knowledge.

They should have basic knowledge about receiving a poly trauma patient and how to give first aid & how to attend to the wounds & to stabilize the patient.

They should know to do manipulatory reduction of fractures & dislocations to know the methods of application of plaster of Paris, Splints, skin and skeletal traction .

They should know the techniques of giving intra articular steroid injections.

RECOMMENDED LIST OF TEXT BOOKS

1. Text book of Operative Orthopaedics
Campbell – by Terry Canale
2. Text book of Fractures – Rockwood and Greene
3. Text Book of Fractures – Jupiter & Browner
4. Surgical Exposures – Hoppenfeld
5. Text Book of Orthopaedics – Turek
6. Text Book of Orthopaedics – Mercer
7. Clinical examination – S. Das
8. Clinical Orthopaedic Examination – Ronald McRae
9. Atlas of Orthopaedic Surgery – Koval
10. Netter is atlas of Anatomy

11. Traction in Orthopaedics – Stewart & Hallet
12. Tuberculosis of Musculoskeletal System – S.M. Tuli
13. Paediatric Orthopaedics – Tachdjian
14. Paediatric Orthopaedics – Lowell & Winter
15. Spine – Herkowitz
16. Pathology of Bone tumours – Mirra
17. Clinical Orthopaedic Examination – Bruce Reider
18. Text books of Trauma & Orthopaedics – Ebenezer / Natarajan / Maheswari / Sneray
19. Outline of Orthopaedics – Adams
20. Bone Pathology – (Aggates, Kirkpatrick, Lichenstein)

Journals :

- a) Journal of Bone & Joint Surgery (JBJS) – American & British
- b) Orthopaedic Clinics of North America
- c) ACTA Orthopaedics Scandinavica
- d) Indian Journal of Orthopaedics
- e) Clinical Orthopaedics & Related Research (cross)
- f) Arthroscopy
- g) Spine
- h) Instruction Course Lectures (Part of JBJS)
- i) Injury
- j) Journal of Paediatric Orthopaedics
- k) Journal of Orthopaedic Trauma
- l) International Orthopaedics
- m) Orthopaedics