

**Passed by Academic Council (Resolution No. 355/2006) dtd. 30/05/2006,
subject to Uniformity in the Examination pattern.**

**MAHARASHTRA UNIVERSITY OF HEALTH
SCIENCES, NASHIK**

SYLLABUS OF M.S. ORTHOPAEDICS

MAHARASHTRA UNIVERSITY OF HEALTH SCIENCES
NASHIK - 422 005.

Syllabus for M.S. (Orth.)

Syllabus :

- 1) Basic Sciences Related to Locomotor system.
- 1) Development, histology of bone, cartilage, collagen, muscles and nerve.
- 2) Physiology of bone, cartilage, muscle & nerve.
- 3) Surgical pathology related to bones, cartilage, muscle, collagen & nerve in various congenital affections, infections, Tumours and tumorous conditions and metabolic affections.
- 4) Orthopaedic diseases
 - Metabolic bone disease
 - Bone infections – Acute and Chronic
 - Congenital deformities and development conditions of upper extremity, lower extremity, spine general defects.
 - Diseases of joints
 - Tumours of Bones
 - Orthopaedic Neurology including spine bifida, Poliomyelitis and cerebral palsy.
 - Diseases of muscle, fibrous tissue and vessels
 - Regional orthopaedic conditions related to neck, shoulder, elbow, wrist, hand, hip, knee, ankle, foot, back and pelvis.
 - Special subject – Orthopaedic Radiology Amputation and disarticulation physiotherapy and rehabilitation
 - Recent advances in orthopaedic diseases.
- 5) General principles of Surgery and Traumatology.
 - Wound healing
 - Fracture healing
 - Rehabilitation after bone and joint injuries
 - Systematic response to injury
 - Acute trauma care and early management of injured
 - Injury to head, face, chest, abdomen, vessels & nerves.
 - Polytrauma
 - Fracture & dislocations in all bones and joints including diagnosis, classifications, various modalities of investigation and operative non-operative treatment including complications.
 - Fractures in children
 - Pathological fractures
 - Recent Advance in various fractures and complications management.
- 6) Exposure to surgical techniques & surgical approaches to various regions to manage common infection, tumor, joint diseases, different type of trauma, congenital, neurological and miscellaneous conditions.
- 7) Principles of Arthroscopy microsurgery & Arthroplasty.
- 8) Orthotics & Prosthetics, disability calculation, Bio-mechanics of gait, splints.

- 9) Thesis – Aim is to train the PG student in research work. Topics should be in experimental, clinical, retrospective analysis or combination such that students is encouraged to do exhaustive reference work. Topics should be relevant to subject and region of work. Topics should allotted within first three months of training. The candidate should complete review of literature by end of the first year and submit his completed thesis six months before the final examination. Subject of thesis should be approved by University within first six months.
- 10) Under Graduate teaching in clinical methods.
- 11) Seminar presentation on common topics.
- 12) Journal reading and discussion.
- 13) Case presentation, ward record maintenance.
- 14) Adequate experience in closed reduction of various fractures, as isting major operation, independent operative management of common orthopaedic condition.
- 15) Preparation of paper for presentation in conference.
- 16) Preparation of article for publication.

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Scheme of Theory Exam. in Orthopaedics for M.S. (Ortho.) Exam.

1) Theory Exam.

Total four papers each of 100 marks = $100 \times 4 = 400$

Paper I - Basic and applied sciences as related to Orthopaedics

Paper II - Orthopaedics Traumatology

Paper III - Orthopaedics diseases

Paper IV - Essay questions.

Paper I, II & III each will have four question of 25 marks each.

Paper IV will have three essay questions of which two should be answered
 $50 \times 2 = 100$.

Duration of time in each paper = Three Hours.

Scheme of Practical Exam. in M.S. (Ortho.) Exam.

1) Practical Exam.

Total marks = 320

1) Long case 1

2) Short case 2 = $50 \times 2 = 100$ marks

3) Table viva = 100 Marks

A) Instrument = 15 Marks

B) X-rays = 15 Marks

C) Operation = 15 Marks

D) Specimen & bones = 15 Marks

E) Ward round = 40 Marks

Total = 320 Marks

No. of Examiners = Four

Internal Examiner = Two

External Examiner = Two

Long cases & ward rounds should be examined by all the examiners together.

Provisional Syllabus for Diploma in Orthopaedics

- 1) Basic Sciences related to Locomotor System
 - i) Histology of bone, cartilage, muscles, collagen, Nerves
 - ii) Physiology of bone, cartilage, muscles, collagen and Nerves
- 2) Surgical Pathology related to Bones, cartilage, Muscle, collagen and Nerves in various.
 - Congenital affection, infections, Tumours and tumours conditions a metabolic affection.
- 3) General principles of surgery and Traumatology
 - i) Wound healing
 - ii) Fracture healing
 - iii) Rehabilitation after bone and joint injury
 - iv) Systemic response to injury
 - v) Fracture and dislocation in all bones its management including complications.
 - vi) Injury to chest, abdomen and head
 - vii) Polytrauma
 - viii) Fractures in children
- 4) Orthopaedics diseases
 - i) Metabolic Bone Disease
 - ii) Bone infections – Acute and chronic
 - iii) Congenital and development Deformities
 - upper extremity
 - Lower extremity
 - Spine
 - General defects
 - iv) Disease of joints
 - v) Tumours of Bones
 - vi) Orthopaedics Neurology – Spina bifida, Polio, Cerebral Palsy
 - vii) Disease of muscles, nerves, vessels and fibrous tissues
 - viii) Regional Orthopaedics related to spine, shoulder
 - ix) Elbow, wrist, hip, knee, ankle and foot.
 - x) Special Subjects
 - Orthopaedics Radiology
 - Amputation
 - Physiotherapy
 - ALTS
 - First Aid

Examination Scheme for D. (Ortho)

Theory Exam. Total three papers, each of three hours duration and carrying 80 marks each. Total = 240 Marks.

Paper I - Anatomy, Physiology and Pathology as applicable to Orthopaedics.

Paper II - Traumatology and general Surgery,

Paper III - General Orthopaedics

Each paper will have four questions of 25 marks each.

Practical Exam.

Total Marks = 300

Long Case 1 = 100

Short Case 2 50 X 2 = 100

Tables : 100

1) Instruments = 20

2) X-rays = 20

3) Specimen = 20

& Bones and splints

4) Ward round = 20

5) Operation = 20

Internal Exam.

Total Marks = 100

Theory = 50

Practical = 50

For further examination the internal assessment marks should be calculated based on periodical tests in theory and practical at every term i.e. 4 tests for D. (Ortho)

Passing will be 50% of the marks in each head separately i.e. Theory, Practical and internal examination. Total marks should be 50% of the total marks for passing