

**Syllabus for the Preliminary test for the Recruitment on the post of
Orthopedic Surgeon, (Specialist Service) Class-I in Gujarat Medical Service
and Services under Employees State Insurance Scheme**

Marks – 200

Questions - 200

Medium - English

1. **Basic Sciences**

Anatomy and function of joint, Bone structure and function, Growth factors and fracture healing, Cartilage structure and function, Structure and function of muscles and tendons, Tendon structure and function, Metallurgy in Orthopaedics, Stem Cells in Orthopaedic Surgery, Gene Therapy in Orthopaedics.

2. **Diagnostic Imaging in Orthopaedics**

Digital Subtraction Angiography (DSA), MRI and CT in Orthopaedics, Musculoskeletal USG, PET Scan, Radio-isotope bone scan.

3. **Diseases and Disorders**

- **Metabolic Bone Diseases:** Rickets and Osteomalacia, Osteoporosis, Scurvy, Mucopolysaccharoidoses, Fluorosis, Osteopetrosis.
- **Endocrine Disorders:** Hyperparathyroidism, Gigantism, Acromegaly
- **Bone and Joint Infections:** Pyogenic Haematogenous Osteomyelitis Acute and Chronic, Septic arthritis, Fungal infections, Miscellaneous infections, Gonococcal arthritis, Bone and joint brucellosis, AIDS and the Orthopaedic Surgeon (universal precautions), Musculoskeletal Manifestations of AIDS, Pott's spine, Tubercular synovitis and arthritis of all major joints.
- **Poliomyelitis:** General considerations, Polio Lower limb and spine, Management of Post-Polio Residual Palsy (PPRP).
- **Orthopaedic Neurology :** Cerebral Palsy, Myopathies.
- **Peripheral Nerve Injuries:** Traumatic, Entrapment Neuropathies.
- **Diseases of Joints:** Osteoarthritis, Calcium Pyrophosphate Dihydrate (CPPD), Gout, Collagen diseases.

- **Systemic Complications in Orthopaedics:** Shock, Crush syndrome, Disseminated Intravascular Coagulation (DIC), Acute Respiratory Distress Syndrome (ARDS).
- **Bone Tumors:** Benign bone tumors, Malignant bone tumors, Tumor like conditions, Metastatic bone Tumors.
- **Traumatic Disorders of Joints (Sports Injuries):** Ankle injuries, Knee injuries, Shoulder and elbow injuries, Wrist and hand injuries.
- **Miscellaneous Diseases:** Diseases of muscles, Fibrous Dysplasia, Unclassified diseases of bone, Paget's disease, Peripheral vascular disease, Orthopaedic manifestations of bleeding disorders.

4. **Regional Orthopaedic Conditions of Adults and Children**

The spine, The shoulder, The elbow, The hand, The wrist, The hip, The knee, The foot and ankle, The pelvis.

5. **Biomaterials**

Orthopaedic metallurgy, Bio-degradable implants in Orthopaedics, Bone substitutes, Bone Banking.

6. **Fracture and Fracture-Dislocations**

General considerations, Definitions, types, grades, patterns and complications, Pathology of fractures and fracture healing, Clinical and Radiological features of fractures and dislocations, General principles of fracture treatment, Recent advances in internal fixation of fractures, Locking plate osteosyntheses, Less Invasive Stabilisation System (LISS), Ilizarov technique, Bone grafting and bone graft substitutes, Open fractures and soft tissue coverage in the lower extremity, Compartment syndrome, Fractures of the upper extremity and shoulder girdle, Fractures of the lower extremity, Fractures of the hip and pelvis, Malunited fractures, Delayed union and non union of fractures, Fractures/dislocations and fracture - dislocations of spine.

7. Dislocations and Subluxations

Acute dislocations, Old unreduced dislocations, Recurrent dislocations,

8. Traumatic Disorders of Joints (Sports Injuries)

Ankle injuries, Knee injuries, Shoulder and elbow injuries, Wrist and hand injuries

9. Arthrodesis

Arthrodesis of lower extremity and hip, Arthrodesis of upper extremity, Arthrodesis of spine

10. Arthroplasty

Biomechanics of joints and replacement of the following joints:

Knee, Ankle, Shoulder, Elbow

11. Minimally Invasive Surgery (MIS)

Arthroscopy: General principles of Arthroscopy, Arthroscopy of knee and ankle, Arthroscopy of shoulder and elbow

12. Amputations and Disarticulations

Amputations and disarticulations in the lower limb, Amputations and disarticulations in the upper limb

13. Rehabilitation - Prosthetics and Orthotics.

14. Pediatric orthopaedics

Fractures and dislocations in children, Perthes' disease, Slipped capital femoral epiphysis, Congenital Dislocation of Hip (CDH), neuromuscular disorders.

15. Spine

➤ **Spinal trauma:** diagnosis and management including various types of fixations, Rehabilitation of paraplegics or quadriplegics, Management of a paralyzed bladder, Prevention of bed sores and

management of established bed sores, Exercise programme and Activities of Daily Living (ADL), Psychosexual counseling

- **Degenerative disorders of the spine:** Prolapsed Inter Vertebral Disc(PIVD), Lumbar Canal Stenosis(LCS), Spondylolysis/Spondylolisthesis, Lumbar Spondylosis, Ankylosing Spondylitis, Spinal fusion: various types and their indications.

16. **Triage, Disaster Management, BTLS and ATLS.**

17. **Recent advances in orthopaedics**

Autologous chondrocyte implantation, Mosaicplasty, Video assisted Thoracoscopy (VATS), Endoscopic spine surgery, Metal on metal arthroplasty of hip, Surface replacements of joints, Microsurgical techniques in Orthopaedics, Designing a modern orthopaedic operation theatre, Sterilization, Theatre Discipline, Laminar air flow, Modular OTs.

18. **Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulation, 2002.**

19. **Current Trends in the Field of Orthopaedics.**


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