

March 2010

[KW 212]

Sub. Code: 2219

M.S. DEGREE EXAMINATION

Branch II – ORTHOPAEDIC SURGERY

**Paper I - (For candidates admitted from 2004-2005 to 2007-2008) and
Part I – (for candidates admitted from 2008-09 onwards)**

**Paper I - APPLIED BASIC SCIENCES IN
ORTHOPAEDIC SURGERY**

Q.P. Code : 222219

Time : Three hours

Maximum : 100 marks

Answer ALL questions

Draw suitable diagram wherever necessary

I. ANATOMY (4 x 5 = 20)

1. Arches of the foot.
2. Supraspinatus muscle.
3. Ilio-tibial band.
4. Brachial plexus.

II. PHYSIOLOGY (4 x 5 = 20)

1. Epiphyseal growth.
2. Wallerian degeneration.
3. Bone remodeling.
4. Cartilage regeneration.

III. BIOCHEMISTRY (3 x 5 = 15)

1. Calcitonin.
2. Synovial fluid.
3. Fluorine.

IV. PATHOLOGY (3 x 5 = 15)

1. Bone biopsy.
2. Myositis ossificans.
3. Anaplasia.

V. MICROBIOLOGY (3 x 5 = 15)

1. Antibiotic resistance.
2. Rheumatoid factor.
3. Human immunodeficiency virus.

VI. PHARMACOLOGY (3 x 5 = 15)

1. Chemotherapy in Ewing's sarcoma.
2. Intra-articular steroids.
3. Immuno-modulator drugs.

September 2010

[KX 212]

Sub. Code: 2219

M.S. DEGREE EXAMINATION

Branch II – Orthopaedic Surgery

**APPLIED BASIC SCIENCES IN ORTHOPAEDIC
SURGERY**

**Paper I - (For candidates admitted from 2004-2005 to 2007-2008) and
Part I – (for candidates admitted from 2008-09 onwards)**

Q.P. Code : 222219

Time : Three hours

Maximum : 100 marks

Draw suitable diagram wherever necessary.

Answer ALL questions.

I. ANATOMY

(4 X 5 = 20)

1. Tensor fascia lata.
2. Ligaments of the knee.
3. Talus.
4. Femoral triangle.

II. PHYSIOLOGY

(4 X 5 = 20)

1. Nerve conduction.
2. Endochondral ossification.
3. Stem cell.
4. Parathyroid hormone.

III. BIOCHEMISTRY

(3 X 5 = 15)

1. Vitamin D.
2. Serum electrophoresis.
3. Alkaline phosphatase.

IV. PATHOLOGY

(3 X 5 = 15)

1. Heterotopic ossification.
2. Marjolin's ulcer.
3. Rheumatoid nodules.

V. MICROBIOLOGY

(3 X 5 = 15)

1. ELISA.
2. Clostridium Welchii.
3. Actinomycosis.

VI. PHARMACOLOGY

(3 X 5 = 15)

1. Aspirin.
2. Allopurinol.
3. Raloxifene.

May 2011

[KY 212]

Sub. Code: 2219

M.S. DEGREE EXAMINATION

BRANCH II – ORTHOPAEDIC SURGERY

APPLIED BASIC SCIENCES IN ORTHOPAEDIC SURGERY

Q.P. Code : 222219

Time : 3 hours
(180 Min)

Maximum : 100 marks

Answer ALL questions in the same order.

Write notes on

Pages Time Marks
(Max.) (Max.) (Max.)

I. ANATOMY

- | | | | |
|-----------------------------|---|---|---|
| 1. Surgical anatomy of hip. | 3 | 9 | 5 |
| 2. Ligaments of knee. | 3 | 9 | 5 |
| 3. Lunate. | 3 | 9 | 5 |
| 4. Scarpa's triangle. | 3 | 9 | 5 |

II. PHYSIOLOGY

- | | | | |
|------------------------------|---|---|---|
| 1. Membranous calcification. | 3 | 9 | 5 |
| 2. Thyroid hormone. | 3 | 9 | 5 |
| 3. Nerve potential. | 3 | 9 | 5 |
| 4. Growth hormone. | 3 | 9 | 5 |

III. BIOCHEMISTRY

- | | | | |
|------------------------------|---|---|---|
| 1. Haemagglutination - Test. | 3 | 9 | 5 |
| 2. PSA. | 3 | 9 | 5 |
| 3. CRP. | 3 | 9 | 5 |

IV. PATHOLOGY

- | | | | |
|-------------------------------|---|---|---|
| 1. Sickle cell trait. | 3 | 9 | 5 |
| 2. Tuberculous Osteomyelitis. | 3 | 9 | 5 |
| 3. Syphilitic ulcer. | 3 | 9 | 5 |

V. MICROBIOLOGY

- | | | | |
|-------------------------------------|---|---|---|
| 1. Spot Test. | 3 | 9 | 5 |
| 2. β Heaemolytic streptococci | 3 | 9 | 5 |
| 3. Interleukin. | 3 | 9 | 5 |

VI. PHARMACOLOGY

- | | | | |
|----------------------------------|---|---|---|
| 1. Interferons. | 3 | 9 | 5 |
| 2. Low molecular weight Heparin. | 3 | 9 | 5 |
| 3. Tamoxifen. | 3 | 9 | 5 |

October 2011

[KZ 212]

Sub. Code: 2219

M.S. DEGREE EXAMINATION
BRANCH II – ORTHOPAEDIC SURGERY
APPLIED BASIC SCIENCES IN ORTHOPAEDIC SURGERY
Q.P. Code : 222219

Time : 3 hours
(180 Min)

Maximum : 100 marks

Answer ALL questions in the same order.

Write notes on

Pages Time Marks
(Max.) (Max.) (Max.)

I. ANATOMY

- | | | | |
|-------------------------------------|---|---|---|
| 1. Blood supply of the spinal cord. | 3 | 9 | 5 |
| 2. Sciatic nerve. | 3 | 9 | 5 |
| 3. Synovial plicae. | 3 | 9 | 5 |
| 4. Psoas major. | 3 | 9 | 5 |

II. PHYSIOLOGY

- | | | | |
|---------------------------------|---|---|---|
| 1. Disc degeneration. | 3 | 9 | 5 |
| 2. Fracture healing. | 3 | 9 | 5 |
| 3. Coagulation cascade. | 3 | 9 | 5 |
| 4. Post traumatic spinal shock. | 3 | 9 | 5 |

III. BIOCHEMISTRY

- | | | | |
|--------------------------|---|---|---|
| 1. Uric acid. | 3 | 9 | 5 |
| 2. Vitamin D. | 3 | 9 | 5 |
| 3. Bence-Jones proteins. | 3 | 9 | 5 |

IV. PATHOLOGY

- | | | | |
|------------------------------------|---|---|---|
| 1. Tubercle. | 3 | 9 | 5 |
| 2. Rheumatoid nodules. | 3 | 9 | 5 |
| 3. Pathology of spinal infections. | 3 | 9 | 5 |

V. MICROBIOLOGY

- | | | | |
|---------------|---|---|---|
| 1. Mycetoma. | 3 | 9 | 5 |
| 2. MRSA. | 3 | 9 | 5 |
| 3. Bone bank. | 3 | 9 | 5 |

VI. PHARMACOLOGY

- | | | | |
|-----------------------|---|---|---|
| 1. Zolendronic acid. | 3 | 9 | 5 |
| 2. Diclofenac sodium. | 3 | 9 | 5 |
| 3. Isoniazid. | 3 | 9 | 5 |

M.S. DEGREE EXAMINATION

BRANCH II – ORTHOPAEDIC SURGERY

APPLIED BASIC SCIENCES IN ORTHOPAEDIC SURGERY

Q.P. Code : 222219

**Time : 3 hours
(180 Min)**

Maximum : 100 marks

Answer ALL questions in the same order.

Write notes on

**Pages Time Marks
(Max.) (Max.) (Max.)**

I. ANATOMY

- | | | | |
|--------------------------------|---|---|---|
| 1. Rotator cuff | 3 | 9 | 5 |
| 2. Carpal tunnel. | 3 | 9 | 5 |
| 3. Extensor mechanism of Knee. | 3 | 9 | 5 |
| 4. Arches of foot. | 3 | 9 | 5 |

II. PHYSIOLOGY

- | | | | |
|---------------------------------|---|---|---|
| 1. Strength duration curve. | 3 | 9 | 5 |
| 2. Reticulo endothelial system. | 3 | 9 | 5 |
| 3. Synovial joint lubricaton. | 3 | 9 | 5 |
| 4. Osteoclast. | 3 | 9 | 5 |

III. BIOCHEMISTRY

- | | | | |
|--|---|---|---|
| 1. Uric acid. | 3 | 9 | 5 |
| 2. Bio chemical markers of bone formation. | 3 | 9 | 5 |
| 3. Vitamin-D. | 3 | 9 | 5 |

IV. PATHOLOGY

- | | | | |
|----------------------------------|---|---|---|
| 1. Pathology of osteo arthritis. | 3 | 9 | 5 |
| 2. Paget's disease. | 3 | 9 | 5 |
| 3. Avascular necrosis of bone. | 3 | 9 | 5 |

V. MICROBIOLOGY

- | | | | |
|---|---|---|---|
| 1. Clostridium tetani. | 3 | 9 | 5 |
| 2. Post implant infection in orthopaedics | 3 | 9 | 5 |
| 3. Hydatid disease of bone. | 3 | 9 | 5 |

VI. PHARMACOLOGY

- | | | | |
|-------------------------|---|---|---|
| 1. Calcitonin. | 3 | 9 | 5 |
| 2. Cis-platin. | 3 | 9 | 5 |
| 3. Methyl prednisolone. | 3 | 9 | 5 |

[LB212]

OCTOBER 2012

Sub. Code: 222219

M.S. DEGREE EXAMINATION

BRANCH II – ORTHOPAEDIC SURGERY

APPLIED BASIC SCIENCES IN ORTHOPAEDIC SURGERY

Q.P. Code : 222219

Time : 3 hours

Maximum : 100 marks

(180 Min)

Answer ALL questions in the same order.

Write notes on

Pages	Time	Marks
(Max.)	(Max.)	(Max.)

I. Anatomy

- | | | | |
|---|---|---|---|
| 1. Blood supply of femoral head in adults | 3 | 9 | 5 |
| 2. Petit's triangle and its importance | 3 | 9 | 5 |
| 3. Typical lumbar vertebra and its significance | 3 | 9 | 5 |
| 4. Ligament of Bigelow and its importance | 3 | 9 | 5 |

II. Physiology

- | | | | |
|-----------------------------------|---|---|---|
| 1. Regulation of Calcitonin | 3 | 9 | 5 |
| 2. Physiology of Shock | 3 | 9 | 5 |
| 3. Complex regional pain syndrome | 3 | 9 | 5 |
| 4. Physiology of Osteoporosis | 3 | 9 | 5 |

III. Biochemistry

- | | | | |
|---|---|---|---|
| 1. Factor VIII and its significance | 3 | 9 | 5 |
| 2. BMP | 3 | 9 | 5 |
| 3. Bio chemical aspects of Renal Osteodystrophy | 3 | 9 | 5 |

IV. Pathology

1. Pathogenesis of Chronic osteomyelitis	3	9	5
2. Pathology of Septic arthritis	3	9	5
3. Myositis ossificans and its importance	3	9	5

V. Microbiology

1. Laboratory Diagnosis of Gas gangrene	3	9	5
2. Applications of BACTEC System	3	9	5
3. Segregation of hospital waste	3	9	5

VI. Pharmacology

1. Bisphosphonates - action and uses	3	9	5
2. Baclofen - action and adverse reactions	3	9	5
3. Indomethacin - action and applications	3	9	5

[LC 212]

APRIL 2013

Sub. Code: 2219

M.S. DEGREE EXAMINATION
BRANCH II – ORTHOPAEDIC SURGERY
APPLIED BASIC SCIENCES IN ORTHOPAEDIC SURGERY
Q.P. Code : 222219

Time: Three Hours

Maximum: 100 marks

Answer ALL questions in the same order.

Write notes on:

I. ANATOMY **(4 x 5 = 20)**

1. Longus colli
2. Anterior cruciate ligament
3. Scaphoid
4. Posterior cord of brachial plexus

II. PHYSIOLOGY **(4 x 5 = 20)**

1. Gate theory of pain
2. Enchondral ossification
3. Clonus
4. Autonomic bladder

III. BIO-CHEMISTRY **(3 x 5 = 15)**

1. Vitamin K
2. Electrophoresis
3. Paget's disease

IV. PHARMACOLOGY **(3 x 5 = 15)**

1. Rifampicin
2. Teriparatide
3. Tramadol

V. MICROBIOLOGY **(3 x 5 = 15)**

1. PCR.
2. Tetanus.
3. MDR tuberculosis.

VI. PATHOLOGY **(3 x 5 = 15)**

1. Nora's lesion.
2. F.N.A.C - Fine Needle Aspiration Cytology.
3. Plasma cell.

[LD 212]

OCTOBER 2013

Sub. Code: 2219

M.S. DEGREE EXAMINATION
BRANCH II – ORTHOPAEDIC SURGERY
APPLIED BASIC SCIENCES IN ORTHOPAEDIC SURGERY
Q.P. Code : 222219

Time: Three Hours

Maximum: 100 marks

Answer ALL questions in the same order.

Write notes on:

I. ANATOMY **(4 x 5 = 20)**

1. Axillary artery.
2. Ankle joint.
3. Vertebral canal.
4. Surgical anatomy of posterior approach to hip joint.

II. PHYSIOLOGY **(4 x 5 = 20)**

1. Physiology of Vitamin D.
2. Muscle spindle and physiology of knee reflex (Deep tendon reflex).
3. Physiology of bone morphogenic proteins.
4. Sports physiology.

III. BIO-CHEMISTRY **(3 x 5 = 15)**

1. Collagen.
2. Biochemical markers of bone tumours.
3. Purine metabolism.

IV. PHARMACOLOGY **(3 x 5 = 15)**

1. Thromboprophylactic drugs.
2. Chemotherapy in osteosarcoma .
3. Post-operative pain management in orthopaedic surgery.

V. MICROBIOLOGY **(3 x 5 = 15)**

1. Periprosthetic infections in orthopaedics.
2. Gonococcal arthritis.
3. Sterilization of orthopaedic implants and instruments.

VI. PATHOLOGY **(3 x 5 = 15)**

1. Pathology of acute inflammation.
2. Psoriatic arthropathy.
3. Spinal muscular atrophy (Infantile motor neuron disease).
