THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

[MD 0524] **MAY 2024** **Sub. Code: 4053**

M.D. DEGREE EXAMINATION

BRANCH XIX – PHYSICAL MEDICINE AND REHABILITATION

PAPER I – BASIC SCIENCES AND BASIC CONCEPTS AS APPLIED TO PHYSICAL MEDICINE AND REHABILITATION

Q.P. Code: 204053

Time: Three Hours **Maximum: 100 Marks**

Write notes on:

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

1. Internal capsule.
2. Carpel tunnel.
3. Ligaments of Knee joints.
4. Blood supply of Spinal cord.

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

1. Regulation of Respiration.
2. Oxygen dissociation.
3. Effect of exercise on cardiovascular system.
4. Physiology of Normal Swallowing.

III. BIOCHEMISTRY **(3 x 5 = 15)**

1. Proteoglycans.
2. Metabolic effects of Insulin.
3. What is C Reactive protein? Mention its clinical utilities.

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

1. Enumerate Drugs for Osteoporosis.
2. Calcitonin.
3. Anti Parkinsonian agents.

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

1. Pathophysiology of Autonomic dysreflexia.
2. Pathophysiology of Atherosclerosis.
3. Buerger’s diseases.

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

1. Asymptomatic bacteraemia.
2. Dengue fever.
3. Rheumatoid factor.

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THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

[MD 1224] **DECEMBER 2024** **Sub. Code: 4053**

(OCTOBER 2024 EXAM SESSION)

M.D. DEGREE EXAMINATION

PHYSICAL MEDICINE AND REHABILITATION

PAPER I – BASIC SCIENCES AND BASIC CONCEPTS AS APPLIED TO PHYSICAL MEDICINE AND REHABILITATION

Q.P. Code: 204053

Time: Three Hours **Maximum: 100 Marks**

Write notes on:

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

1. Knee joint.
2. Supraspinatus muscle.
3. Ulnar nerve at elbow.
4. Abducens nerve.

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

1. Mitochondria.
2. Blood-brain barrier.
3. Bleeding time.
4. Astrocytes.

III. BIOCHEMISTRY **(3 x 5 = 15)**

1. Gastric inhibitory peptide.
2. Acetyl coenzyme A.
3. Triglycerides.

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

1. Amantadine.
2. Baclofen.
3. Sitagliptin.

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

1. Hallux valgus.
2. Trophic ulcer.
3. Haemorrhoids.

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

1. Vibrio cholerae.
2. Klebsiella.
3. Ancylostoma duodenale.

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THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

[MD 0525] **MAY 2025** **Sub. Code: 4053**

M.D. DEGREE EXAMINATION

PHYSICAL MEDICINE AND REHABILITATION

PAPER I – BASIC SCIENCES AND BASIC CONCEPTS AS APPLIED TO PHYSICAL MEDICINE AND REHABILITATION

Q.P. Code: 204053

Time: Three Hours **Maximum: 100 Marks**

Write notes on:

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

1. Hip joint.
2. Ilio-Psoas muscle.
3. Median nerve at wrist and hand.
4. Optic tract and Radiation.

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

1. Sarcoplasm.
2. Coronary blood flow.
3. Coagulation cascade.
4. Schwann cells.

III. BIOCHEMISTRY **(3 x 5 = 15)**

1. Glucagon-like peptide-1.
2. Fatty acids.
3. Prostaglandins.

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

1. Indomethacin.
2. Aminoglycosides.
3. Ketoconazole.

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

1. Heterotopic ossification.
2. Aphthous ulcer.
3. Osteogenesis imperfecta.

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

1. Varicella-zoster.
2. Clostridium tetani.
3. Measles.

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THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

[MD 1025] **OCTOBER 2025** **Sub. Code: 4053**

M.D. DEGREE EXAMINATION

PHYSICAL MEDICINE AND REHABILITATION

PAPER I – BASIC SCIENCES AND BASIC CONCEPTS AS APPLIED TO PHYSICAL MEDICINE AND REHABILITATION

Q.P. Code: 204053

Time: Three Hours **Maximum: 100 Marks**

Write notes on:

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

1. Glenohumeral joint.
2. Piriformis muscle.
3. Ulnar nerve at the cubital tunnel.
4. Visual cortex and optic radiation.

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

1. Excitation-contraction coupling in skeletal muscle.
2. Micturition Reflex.
3. Intrinsic coagulation pathway.
4. Saltatory conduction.

III. BIOCHEMISTRY **(3 x 5 = 15)**

1. Creatine Phosphokinase.
2. Omega-3 fatty acids.
3. Nitric oxide.

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

1. Baclofen.
2. Bisphosphonates.
3. Citicoline.

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

1. Heterotopic ossification.
2. Aphthous stomatitis.
3. Virchow triad.

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

1. Herpes simplex virus.
2. Pseudomonas bacteria.
3. Antibiogram.

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THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

[MD 0526] **MAY 2026** **Sub. Code: 4053**

M.D. DEGREE EXAMINATION

PHYSICAL MEDICINE AND REHABILITATION

PAPER I – BASIC SCIENCES AND BASIC CONCEPTS AS APPLIED TO PHYSICAL MEDICINE AND REHABILITATION

Q.P. Code: 204053

Time: Three Hours **Maximum: 100 Marks**

Write notes on:

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

1. Hamstring muscles and its role in normal gait.
2. Deltoid ligament of the ankle.
3. Describe the spinothalamic tract.
4. Contents of carpal tunnel.

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

1. Explain bladder receptors and its function.
2. Cardiac output regulation.
3. Post synaptic potentials.
4. Sleep cycle.

III. BIOCHEMISTRY **(3 x 5 = 15)**

1. Lipid profile.
2. Gluconeogenesis.
3. Thyroid stimulating hormone.

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

1. Dabigatran.
2. Vitamin D.
3. Mechanism of action and side effects of injection Zoledronic acid.

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

1. Pathophysiology of Paget's disease.
2. Describe the pathology of dermatomyositis.
3. Explain normal Haemostasis.

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

1. Sabin's live attenuated vaccine.
2. Asymptomatic bacteriuria.
3. Nosocomial infection.

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THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

[MD 0926] **SEPTEMBER 2026** **Sub. Code: 4053**

M.D. DEGREE EXAMINATION

PHYSICAL MEDICINE AND REHABILITATION

PAPER I – BASIC SCIENCES AND BASIC CONCEPTS AS APPLIED TO PHYSICAL MEDICINE AND REHABILITATION

Q.P. Code: 204053

Time: Three Hours **Maximum: 100 Marks**

Write notes on:

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

1. Typical spinal nerve structure and function.
2. Neuromuscular junction.
3. Draw and explain the auditory pathway.
4. Biomechanics of the hip joint.

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

1. Respiratory functions.
2. Blood pressure regulation.
3. Bowel continence.
4. Function of basal ganglia.

III. BIOCHEMISTRY **(3 x 5 = 15)**

1. Gout.
2. Methyl cobalamin.
3. Homocysteine.

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

1. Duloxetine.
2. Lacosamide.
3. Mechanism of action, side effects of inj. Zoledronic acid.

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

1. Pathophysiology of Coronary artery disease.
2. Describe the pathology of Charcot's joint.
3. Diabetic neuropathy.

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

1. Neurocysticercosis.
2. E coli.
3. MRSA.

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THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

[MD 0926] **SEPTEMBER 2026** **Sub. Code: 4053**

M.D. DEGREE EXAMINATION

PHYSICAL MEDICINE AND REHABILITATION

PAPER I – BASIC SCIENCES AND BASIC CONCEPTS AS APPLIED TO PHYSICAL MEDICINE AND REHABILITATION

Q.P. Code: 204053

Time: Three Hours **Maximum: 100 Marks**

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