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

[MS 0524] **MAY 2024** **Sub. Code: 4009**

M.S. DEGREE EXAMINATION

BRANCH III – OPHTHALMOLOGY

PAPER I – BASIC SCIENCES RELATED TO OPHTHALMOLOGY, REFRACTION & OPTICS

Q.P. Code: 224009

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

Write notes on:

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

1. Elevators of upper eyelid.
2. Anatomy of Cavernous sinus.
3. Apex of orbit.
4. Macula.

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

1. Theories of accommodation.
2. Tonometry.
3. Herring's and Sherrington's law.
4. Factors maintaining the intraocular pressure.

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

1. Composition of vitreous humour.
2. Lens proteins.
3. Biochemical changes in diabetes mellitus.

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

1. Immunosuppressives.
2. Antiglaucoma medications.
3. Anti vascular endothelial growth factor.

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

1. Sympathetic Ophthalmia.
2. Basal cell carcinoma.
3. Pseudotumour.

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

1. Sterilisation of operation theatre.
2. Gram staining.
3. Investigations in acanthamoeba keratitis.

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

[MS 1224] **DECEMBER 2024** **Sub. Code: 4009**
(OCTOBER 2024 EXAM SESSION)

M.S. DEGREE EXAMINATION

OPHTHALMOLOGY

PAPER I – BASIC SCIENCES RELATED TO OPHTHALMOLOGY, REFRACTION & OPTICS

Q.P. Code: 224009

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

Write notes on:

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

1. Annulus of Zinn.
2. Central Retinal artery.
3. Lens placode.
4. Intra Conal space.

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

1. Blood Aqueous Barrier.
2. Strums conoid.
3. Tear film stability.
4. Normal Pupillary actions.

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

1. Aqueous humor composition.
2. IONIC Transport across endothelium.
3. Antioxidants in lens.

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

1. Newer Antivirals.
2. Intravitreal Steroids-Indications and adverse effects.
3. Biologics in uveitis.

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

1. Pathology of Coloboma.
2. Orbit Pseudotumor.
3. Pathology of Morren’s ulcer.

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

1. Organisms in Acute corneal ulcer.
2. Post op Endophthalmitis.
3. Acanthamoeba.

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

[MS 0525] **MAY 2025** **Sub. Code: 4009**

M.S. DEGREE EXAMINATION

OPHTHALMOLOGY

PAPER I – BASIC SCIENCES RELATED TO OPHTHALMOLOGY, REFRACTION & OPTICS

Q.P. Code: 224009

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

Write notes on:

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

1. Superior orbital fissure.
2. Vascular supply of disc.
3. Anatomy of limbus and surgical importance.
4. Intrinsic muscles of the eye.

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

1. Pupillary reflex.
2. Composition and functions of Tear film.
3. Blood retinal barrier and clinical importance.
4. Stereopsis.

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

1. Biochemical changes in lens metabolism in DM.
2. Photochemistry of vision.
3. Corneal metabolism.

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

1. Antimetabolites in ophthalmology.
2. Factors affecting Ocular drug absorption.
3. Systemic drugs that can influence Intraocular Pressure.

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

1. Pathogenesis of retinoblastoma.
2. Siderosis bulbi.
3. Dalen Fuchs nodule.

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

1. Pigmented fungi.
2. Herpes zoster virus.
3. PCR.

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

[MS 1025] **OCTOBER 2025** **Sub. Code: 4009**

M.S. DEGREE EXAMINATION

OPHTHALMOLOGY

PAPER I – BASIC SCIENCES RELATED TO OPHTHALMOLOGY, REFRACTION & OPTICS

Q.P. Code: 224009

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

Write notes on:

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

1. Medial Wall of orbit.
2. Circle of Willis.
3. Anatomy of Optic nerve.
4. Orbicularis oculi.

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

1. Episcleral venous pressure.
2. Prisms in ophthalmology.
3. Corneal wound Healing.
4. Physiology of near vision.

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

1. Biochemistry of Tear film.
2. Lens Proteins.
3. Photochemistry of Vision.

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

1. NSAIDS in Ophthalmology.
2. Periocular steroids.
3. Role of Antibiotics to prevent endophthalmitis.

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

1. Histopathology of Ciliary Body Tumours.
2. Adenoid cystic carcinoma – Lacrimal gland pathology.
3. HPE of Meibomian gland lesions.

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

1. Dacryocystitis - organisms.
2. Ocular TB.
3. Bacterial cultures used in ocular Microbiology.

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

[MS 0526] **MAY 2026** **Sub. Code: 4009**

M.S. DEGREE EXAMINATION

OPHTHALMOLOGY

PAPER I – BASIC SCIENCES RELATED TO OPHTHALMOLOGY, REFRACTION & OPTICS

Q.P. Code: 224009

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

Write notes on:

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

1. Supports of eyeball.
2. Retinal nerve fibre arrangement.
3. Anatomy of AC angle.
4. Vortex veins.

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

1. Development of BSV.
2. The near point of vision.
3. Deturgescence of cornea.
4. Amblyopia.

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

1. Vascular endothelial growth factor.
2. Wald's visual cycle.
3. Biosynthesis of prostaglandins.

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

1. Mucormycosis management.
2. Drugs acting on pupils and their diagnostic and therapeutic uses.
3. Cyclosporin.

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

1. Pathology of peripheral ulcerative keratitis.
2. Pathology of Retinoblastoma.
3. HT Choroidopathy.

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

1. Cysticercus.
2. Gonococcal infections.
3. Long-term corneal preservation.

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