

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.

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

[MS 1224]

**DECEMBER 2024
(OCTOBER 2024 EXAM SESSION)**

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. 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.

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.

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.
