



# NIMS UNIVERSITY

SYLLABUS

OF

MASTER OF OPTOMETRY & OPHTHALMIC TECHNOLOGY –  
MOOT

VERSION 1.2

DIRECTORATE OF DISTANCE EDUCATION

Shobha Nagar, Jaipur-Delhi Highway (NH-11C), Jaipur- 303121  
Rajasthan, India

# MASTER OF OPTOMETRY & OPHTHALMIC TECHNOLOGY – MOOT

|                      |   |  |
|----------------------|---|--|
| Eligibility          | : | BOOT/BPT/BOT   |
| Programme Duration   | : | 2 Years  |
| Programme Objectives | : | The scope of Optometry includes the detection of common eye diseases, the management of binocular vision problems such as squints and lazy eyes and the prescription of spectacles and contact lenses. The Masters degree in Optometry is a programme that aims to produce professionally competent optometrists serving as primary eye care health practitioners. NIMS University is one of the few premium institutions in India that offers a Masters degree in Optometry and Ophthalmic Technology.  |
| Job Prospects        | : | After the completion of BOOT, you will find challenging career opportunities with Optician shops, eye doctors, and Contact Lens companies, Ophthalmic lens industry and hospital eye departments. A technician can work for eye testing, Contact lenses, squint exercises, etc. You can start your own eye clinic, Optical shop, lens manufacturing unit. You can also get job opportunities with Optician shops and hospitals in India and abroad. Additionally, you can take up teaching Optometry as a career with schools of Optometry. Common job profiles of students after completing BOOT include: Optometry and Ophthalmic Heads, Technicians, Ophthalmic Head Nurses and Academic positions. |

**YEAR I**

| <b>Course Code</b> | <b>Course Title</b>                    | <b>Theory/<br/>Practical</b> | <b>Continuous<br/>Assessment<br/>(Internals)</b> | <b>Credits</b> |
|--------------------|--|------------------------------|--|----------------|
| OPH16101           | Ocular Anatomy & Physiology            | 70                           | 30   | 4              |
| OPH16102           | Nature of Light                        | 70                           | 30   | 4              |
| OPH16103           | Optics of Normal Eye                   | 70                           | 30   | 4              |
| OPH16104           | Eye Diseases-I                         | 70                           | 30   | 4              |
| OPH16105           | Spectacle & Lenses                     | 70                           | 30   | 4              |
| OPH16106           | Eye Disease-II                         | 70                           | 30   | 4              |
| OPH16107           | Ophthalmic Instrument & Investigations | 70                           | 30   | 4              |
| OPH16102P          | Nature of Light                        | 35                           | 15   | 1              |
| OPH16103P          | Optics of Normal Eye                   | 35                           | 15   | 1              |
| OPH16104P          | Eye Diseases                           | 35                           | 15   | 1              |
| OPH16105P          | Spectacle & Lenses                     | 35                           | 15   | 1              |
|                    |  |                              | Total  | 32             |

**YEAR II**

| <b>Course Code</b> | <b>Course Title</b>                                | <b>Theory/<br/>Practical</b> | <b>Continuous<br/>Assessment<br/>(Internals)</b> | <b>Credits</b> |
|--------------------|--|------------------------------|--|----------------|
| OPH16201           | Contact Lenses-LVA and Visual Functions Assessment | 70                           | 30   | 4              |
| OPH16202           | Intraocular Implants & Refractive Surgery          | 70                           | 30   | 4              |
| OPH16203           | Orthoptics & Pleoptics                             | 70                           | 30   | 4              |
| OPH16204           | Eye Disease –III                                   | 70                           | 30   | 4              |
| OPH16205           | Neuro Ophthalmology                                | 70                           | 30   | 4              |
| OPH16206           | Eye & Systemic Diseases                            | 70                           | 30   | 4              |
| OPH16207           | Preventive & Community Ophthalmology               | 70                           | 30   | 4              |
| OPH16201P          | Contact Lenses-LVA and Visual Functions Assessment | 35                           | 15   | 1              |
| OPH16202P          | Intraocular Implants & Refractive Surgery          | 35                           | 15   | 1              |
| OPH16206P          | Eye & Systemic Diseases                            | 35                           | 15   | 1              |
| DSR16201           | Dissertation                                       | 200                          |  | 1              |
|                    |  |                              | Total  | 32             |

# DETAILED SYLLABUS

**INSTRUCTIONAL METHOD:** Personal contact programmes, Lectures (virtual and in-person), Assignments, Labs and Discussions, Learning projects, Industrial Training Programmes and Dissertation.

## YEAR I

### **OCULAR ANATOMY & PHYSIOLOGY- OPH16101**

| UNIT | CONTENTS   |
|------|--|
| 1    | <p><b>Gross Anatomy And Embryology Of Eye:</b> Introduction</p> <p>Gross Anatomy of Eyeball and Orbit-<br/>                     General Anatomy of the Eyeball and Orbit<br/>                     General Shape of the Eyeball<br/>                     Layers of the Eyeball<br/>                     General Concepts of the Structures within the Eyeball</p> <p>Embryology of Eyeball-<br/>                     Specific Embryological Stages of Eyeball<br/>                     Embryology of Specific Ocular Structures</p> <p>Growth and Development of Eye.</p> |
| 2    | <p><b>Anatomy Of The Outer Coat Of The Eyeball:</b> Introduction</p> <p>Anatomy Of The Outer Coat Of The Eyeball-<br/>                     Anatomy of Conjunctiva<br/>                     Coat of Eyeball<br/>                     Anatomy of Cornea<br/>                     Anatomy of Sclera</p>   |
| 3    | <p><b>Anatomy Of The Middle Coat of The Eyeball:</b> Introduction,</p> <p>Anatomy of Uveal Tract-<br/>                     Anatomy of Iris<br/>                     Anatomy of Ciliary Body<br/>                     Anatomy of Choroid</p> <p>Anatomy of Anterior and Posterior Chambers</p>  |
| 4    | <p><b>Anatomy Of Lens:</b> Introduction<br/>                     Anatomy of Lens</p>   |
| 5    | <p><b>Anatomy Of The Inner Coat Of The Eyeball And Anatomy Of Vitreous:</b> Introduction</p> <p>Anatomy of Retina and its Special Regions-<br/>                     Anatomy of Retina<br/>                     Special Regions of the Retina</p> <p>Anatomy of Vitreous.</p>   |
| 6    | <p><b>Anatomy Of Optic Nerve And The Visual Pathway:</b> Introduction<br/>                     Parts of Visual Pathways<br/>                     Optic Nerve</p>   |

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|----|---|
|    | <p>Optic Chiasma<br/> Optic Tract<br/> Lateral Geniculate Nucleus<br/> Optic Radiation<br/> Visual Cortex<br/> Arrangement of Fibres in Visual Pathway</p>  |
| 7  | <p><b>Anatomy Of Lids And Lacrimal System:</b> Introduction<br/> Description of Eye Lids and Lacrimal System</p>  |
| 8  | <p><b>Eyelids, Lacrimal Apparatus And Tear Film Dynamics:</b> Introduction</p> <p>Structure and Functions of the Eyelids-<br/> Functions of the Eyelids<br/> Physiology of Eyelid Movements<br/> Blinking and Peering</p> <p>Functions of the Lacrimal Apparatus-<br/> Tear Secretion<br/> Control of Tear Production<br/> Tear Drainage</p> <p>Tear Film Dynamics-<br/> Functions of Tear Film<br/> Physical Properties of Tear Film<br/> Tear Dynamics<br/> Tear Film Dysfunction<br/> Treatment of Dry Eye</p> |
| 9  | <p><b>Aqueous Humour And Intra Ocular Pressure:</b> Introduction</p> <p>Structure and Functions of Aqueous Humour-<br/> Formation of Aqueous Humour<br/> Aqueous Movement and Outflow<br/> Aqueous Composition<br/> Physio-chemical Properties of Aqueous</p> <p>Intra-ocular Pressure-<br/> Diurnal Variation of intra-ocular Pressure<br/> Measurement of Intra-ocular Pressure<br/> Increase in Intra-ocular Pressure<br/> Lowering Intra-ocular Pressure<br/> Factors Affecting intra-ocular pressure</p>     |
| 10 | <p><b>Pupil And Pupillary Reflexes:</b> Introduction</p> <p>Pupillary Reflexes</p> <p>Pupil-<br/> Appearance of the Pupil<br/> Accommodation<br/> Neuronal Pathways</p> <p>Pupillary Defects-<br/> Marcus Gunn Pupil (RAPD)<br/> Argyll Robertson Pupil (ARP)<br/> Adie's (Tonic) Pupil<br/> Homer's Pupil<br/> Iris Coloboma</p>   |
| 11 | <p><b>Muscles and Movements of the Eye:</b></p>   |

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|----|--|
|    | <p>Extra-ocular Muscles-<br/>Recti and Oblique Muscles<br/>Planes of Muscles</p> <p>Intra-ocular Muscles<br/>Uni-ocular Movements</p> <p>Binocular Movements-<br/>Laws Governing Ocular Movements</p> <p>Abnormalities of Gaze-<br/>Latent Squint (Anisophoria or Heterophoria)<br/>Manifest Squint (Heterotropia)<br/>Pseudosquint (Pseudo-false)</p>   |
| 12 | <p><b>Vision: Light Sense, Night Vision And Colour Vision:</b> Introduction</p> <p>Visual Impulse and Perception-<br/>Initiation of Visual Impulse<br/>Transmission of Visual Sensation<br/>Analysis of Visual Perception</p> <p>Colour Vision-<br/>Young's Trichromatic Theory<br/>Details of Colour Vision,<br/>Defective Colour Vision</p> <p>Light Sense-<br/>Adaptation<br/>Dark Adaptation</p> <p>Contrast Sense</p> |
| 13 | <p><b>Visual Pathway, Fields And Visual Cortex:</b> Introduction<br/>Retina, Optic Nerve, Optic Chiasma, Optic Tract, Lateral Geniculate Body, Optic Radiations</p> <p>Visual Cortex-<br/>Physiological Aspects</p> <p>Visual Fields-<br/>Perimetry<br/>Methods of Visual Field Examination</p>  |
| 14 | <p><b>Visual Acuity, Uni-Ocular And Binocular Vision:</b><br/>Measurement of Visual Acuity-<br/>Test Types Snellen's and Landolt's</p> <p>Binocular Vision-<br/>Advantages of Binocular Vision<br/>Retinal Correspondence<br/>Horopter (Horizon of Vision)<br/>Pannum's Area</p> <p>Tests for Binocular Single Vision</p>  |
| 15 | <p><b>Accommodation And Convergence:</b> Introduction<br/>Accommodation-<br/>Mechanisms<br/>Theories of Accommodation</p>  |

|    |   |
|----|---|
|    | Convergence   |
| 16 | <b>Electro-Physiology Of The Eye:</b> Introduction<br>Electro-retinogram<br>Visual Evoked Response<br>Electro-oculogram |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Ocular Anatomy and Physiology-By Al Lens, Comt Comt, Sheila Coyne Nemeth, Janice K. Ledford-Slack incorporated
- B. Ophth Assistant Vol-V (Community Ophth) - Dr. L.P. Agarwal

### **NATURE OF LIGHT- OPH16102**

| UNIT | CONTENTS  |
|------|---|
| 1    | <b>Current concept of Light:</b><br>Origin of light<br>Travel of light<br>Arrival of light  |
| 2    | <b>Visible Light:</b><br>Visible light origin<br>Visible light sensing<br>Visible light receptor and ocular media<br>Light sensitivity<br>The receptor as light guide, Transparency of Dioptric Media |
| 3    | <b>Physical Optics:</b><br>Intraocular scattering<br>Diffraction effects<br>Polarization phenomenon<br>Eye colors<br>The Doppler shift  |
| 4    | <b>Light damage to Eye:</b><br>Ultraviolet light, Biochemical mechanism of light damage, Clinical example of ocular light damage, Light protectors  |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. The Nature of light-Eugen Cornelius Joseph von Lommel-D. Appleton and Co., 1876

## OPTICS OF NORMAL EYE- OPH16103

| UNIT | CONTENTS   |
|------|--|
| 1    | <b>Individual optical elements of eye:</b><br>Normal eye<br>Abnormal eye<br>Dundas eye<br>Reduced eye  |
| 2    | <b>Visual Acuity Testing:</b><br>For Distance-<br>Snellen's test<br>Keeler Elliot test<br>Kay Picture test<br>Ffooks Symbols<br><br>For Near-<br>Jaeger test<br>Reduced Snellen's test<br>Visual acuity testing in children<br>Preferential looking test<br>Tellers acuity card test<br>E-Test<br>Landolt Chart test<br>STY-CAR test<br>HOTV test<br>Photostress test<br>Pinhole examination |
| 3    | <b>Contrast Sensitivity Functions:</b><br>Modulation transfer function<br>Retina Brain image processing  |
| 4    | <b>Radioscopy:</b><br>Theory of Radioscopy<br>Practice of Retinoscopy<br>Subjective verification of reflexes   |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Optics of The Human Eyes By David A. Atchison, David A. Atchison George Smith-BH

## EYE DISEASE-I- OPH16104

| UNIT | CONTENTS  |
|------|---|
| 1    | <b>Disease of Lid:</b><br>Disease of Lid  |
| 2    | <b>Disease of Conjunctiva:</b><br>Inflammation, Trauma, Degeneration, Tumors                              |
| 3    | <b>Disease of Lacrimal apparatus:</b><br>Congenital, Inflammation of lacrimal sac, Tumors of lacrimal sac |

|   |  |
|---|--|
| 4 | <b>Disease of Cornea</b><br>Keratitis and Corneal ulcer, Corneal degeneration, Keratoconus |
| 5 | <b>Sclera</b><br>Inflammation, Scleritis, Episcleritis                                     |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. The Eye Book: Eyes and Eye Problems Explained By Ian Grierson
- B. Differential diagnosis of eye diseases-Hans Pau-W. B. Saunders Co., 1978

**SPECTACLES & LENSES- OPH16105**

| UNIT | CONTENTS   |
|------|--|
| 1.   | <b>Lens-material:</b><br>Lens Material   |
| 2.   | <b>Types of Spectacle Lenses:</b><br>Spherical lens<br>Cylindrical lens<br>Concave lens<br>Convex lens<br>Plano-concave lenses<br>Plano-convex lenses<br>Miscellaneous |
| 3.   | <b>Fresnel Lenses &amp; Prisms</b>   |
| 4.   | <b>Prism correction</b>  |
| 5.   | <b>Absorptive Lenses</b>   |
| 6.   | <b>Safety Lenses</b>   |
| 7.   | <b>Frames</b>  |
| 8.   | <b>Dissatisfied Patients</b>   |
| 9.   | <b>Spectacle &amp; Lens in children for Near Vision-<br/>Bifocal lens types, Progressive lens or multifocal lens</b>   |
| 10.  | <b>Aberration of lens</b>  |
| 11.  | <b>Magnifying lens</b>   |
| 12.  | <b>Single transposition</b>  |
| 13.  | <b>Toric transposition</b>   |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Spectacle Lenses: Theory and Practice By Colin Fowler, Colin Fowler Keziah Latham Petre
- B. Lenses, spectacles, eyeglasses, and contacts: The story of vision aids-Alberta Kelley

## EYE DISEASE-II- OPH16106

| UNIT | CONTENTS  |
|------|---|
| 1    | <b>Uvea:</b><br>Etiopathogenesis<br>Clinical features<br>Routine investigation<br>Types of uveitis<br>Vascular and circulating disturbances<br>Degeneration, Congenital abnormalities   |
| 2    | <b>Lens:</b><br>Aetiopathogenesis of cataract, Symptoms of cataract , Age related or Senile cataract, Cataract associated with ocular disease, Cataract associated with systemic disease, Cataract due to other causes<br>Development of cataract<br>Management of cataract<br>Complication of cataract surgery, Secondary cataract |
| 3    | <b>Retina:</b><br>Examination of Fundus<br>Vascular retinopathies<br>Inflammation of retina<br>Degeneration of retina, Detachment of retina   |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. The Eye Book: Eyes and Eye Problems Explained By Ian Grierson
- B. Textbook of Ophthalmology by H V Nema

## OPHTHALMIC INSTRUMENT & INVESTIGATIONS- OPH16107

| UNIT | CONTENTS   |
|------|--|
| 1    | <b>Corneal Measurement:</b><br>Measuring the corneal surface, Measuring corneal thickness<br>The specular microscope<br>Retinoscope - Plane mirror, Prestly Smity, Streak<br>Automated objective refractometer<br>The lensometer |
| 2    | <b>Ophthalmoscope:</b><br>Indirect ophthalmoscope<br>Direct ophthalmoscope<br>Funds camera<br>Magnify device   |
| 3    | <b>Investigations:</b><br>Gonioscopy, Tonometry, Ultrasound biomicroscopy<br>Ancillary investigations<br>Fluorescein Angiography<br>Indocyanine Green Angiography  |

|   |  |
|---|--|
|   | Ultrasonography<br>Computerized Axial Tomography-CAT-<br>Magnetic Resonance Imaging-MRI<br>Electrophysiological Response<br>Electrooculogram<br>Electroretinogram<br>Visual evoked potential<br>Binocular vision & stereo acuity<br>Electromyography<br>Electronystagmography<br><br>Colour Vision-<br>Theory of color vision<br>Disorder of color vision<br>Testing of color vision |
| 4 | <b>Ophthalmic Instruments:</b><br>Synoptophore<br>Adaptation & Adaptometry<br>Ocular Photography<br>Pachymetry   |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Textbook of Ophthalmology by H V Nema
- B. Moorfields Manual of Ophthalmology By Timothy L. Jackson

### **NATURE OF LIGHT – OPH16102P**

| UNIT | CONTENTS            |
|------|---------------------|
| 1    | Visible light       |
| 2    | Physical optics     |
| 3    | Light damage to eye |
| 4    | Light protectors    |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. The Nature of light-Eugen Cornelius Joseph von Lommel-D. Appleton and Co., 1876

## OPTICS OF NORMAL EYE – OPH16103P

| UNIT | CONTENTS                          |
|------|-----------------------------------|
| 1    | Normal eye                        |
| 2    | Abnormal eye                      |
| 3    | Visual acuity testing             |
| 4    | Visual acuity testing in children |
| 5    | Contrast sensitivity functions    |
| 6    | Retinoscopy                       |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Clinical Visual Optics By Arthur George Bennett, Arthur G. Bennett Ronald B. Rabbetts-BH
- B. Optics by M. H. (Michael Harold) Freeman, C. C. Hull, Ph.D., W. N. Charman-Elsevier Health Sciences

## EYE DISEASE-I – OPH16104P

| UNIT | CONTENTS                       |
|------|--------------------------------|
| 1    | Diseases of Lid                |
| 2    | Diseases of conjunctive        |
| 3    | Diseases of lacrimal apparatus |
| 4    | Diseases of Cornea             |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Ocular Disease: Mechanisms and Management E-Book: Mechanisms and Management By Leonard A Levin, Daniel M. Albert

## **SPECTACLES & LENSES – OPH16105P**

| UNIT | CONTENTS             |
|------|----------------------|
| 1    | Lens Material        |
| 2    | Types of Spectacles  |
| 3    | Fresnel lenses       |
| 4    | Aberration of lenses |
| 5    | Magnify lens         |
| 6    | Single transposition |
| 7    | Uvea                 |
| 8    | Lens                 |
| 9    | Retina               |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Optics by Ajoy Ghatak, Tata McGraw-Hill Education (2012)

**YEAR II**

## **CONTACT LENS-LVA AND VISUAL FUNCTIONS ASSESSMENT- OPH16201**

| UNIT | CONTENTS   |
|------|--|
| 1    | Introduction, History, Lens types, Optics of contact lenses  |
| 2    | Eye examination procedure in contact lens  |
| 3    | Lens care  |
| 4    | Material used for contact lens   |
| 5    | Type of contact lens   |
| 6    | Fitting of contact lens  |
| 7    | Extended wear contact lens   |
| 8    | Bandage contact lens   |
| 9    | Visual acuity<br>MARC maximum angle of resolution  |
| 10   | Field of vision - Confrontation test, Perimetry, Kinetic Perimetry, Static perimeter, Automated perimeter, Dark adaptator & contrast sensitivity |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. [http://www.centreforsight.net/content/148\\_54/Contact-Lens-and-Low-Vision-Aids.html](http://www.centreforsight.net/content/148_54/Contact-Lens-and-Low-Vision-Aids.html)
- B. Ophthalmic Lenses & Dispensing By Mo Jalie

**INTRAOCULAR IMPLANT & REFRACTORY SURGERIES-**  
**OPH16202**

| UNIT | CONTENTS   |
|------|--|
| 1    | <b>Optics of Intraocular implants:</b> Introduction<br>Optical effects of intraocular implants<br>Calculating implant power<br>Types of implants<br>Material used for implants<br>Implant decentering<br>Implant tilt & Astigmatism<br>Implants for Presbyopia, Bifocal IOL, Multifocal IOL, Foldable IOL  |
| 2    | <b>Optics of Corneal Refractive Surgery:</b><br>Corneal radius and index<br>Optical zone size<br>Corneal refractive surgery procedures i.e. Radial Keratotomy PRK, LASIK, IV. LASEK,<br>Optical results of refractory surgery<br>Surgical correction of Astigmatism<br>Corneal Incision in Myopia and hypermetropia, Surgical correction of presbyopia |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Ocular Anatomy and Physiology-Al Lens, Comt Comt, Sheila Coyne Nemeth, Janice K. Ledford-Slack Incorporated

**ORTHOPTICS & PLEOPTICS- OPH16203**

| UNIT | CONTENTS   |
|------|--|
| 1    | <b>Motor apparatus of eye:</b><br>Anatomy of ocular muscles<br>Actions of extra ocular muscles<br>Nervous control of ocular movement |
| 2    | <b>Binocular Vision:</b><br>Versions, Grading of binocular vision  |
| 3    | <b>Fixation:</b> Fixation  |

|   |  |
|---|--|
| 4 | <b>Convergence &amp; Accommodation</b>   |
| 5 | <b>Strabismus</b><br>Comitant Strabismus<br>Comitant vs incomitant strabismus<br>Etiology of comitant strabismus<br>Symptom of comitant strabismus<br>Investigation<br>General principal of management of strabismus<br>Latent squint (strabismus) (Hetrophoria)<br>Maddox Rod<br>Maddox Wing<br>Heterotopia or manifest strabismus<br>A.V. pattern<br>Misotropia Treatment<br>Incomitant strabismus<br>Paralytic strabismums<br>Aetiology Investigations-Diopia charting<br>Types of ocular muscle paralysis<br>Restrictive strabismums, Synkineses, Synaptophore |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Clinical Orthoptics By Fiona J. Rowe-Wiley Blackwell

**EYE DISEASES-III- OPH16204**

| UNIT | CONTENTS   |
|------|--|
| 1    | <b>Glaucoma:</b> Introduction<br>Primary adult glaucoma<br>Intraocular prism changes in glaucoma<br>Field changes in glaucoma<br>Secondary glaucoma-optic nerve based drugs<br>Secondary glaucoma<br>Pediatric glaucoma<br>Treatment of glaucoma |
| 2    | <b>Eye Injury:</b><br>Chemical injury<br>Concessional injury<br>Concessional injury<br>Penetrating injury<br>Sympathetic Ophthalmitis  |
| 3    | <b>Disease of Optic Nerve:</b><br>Papilledema, Disturbances of circulation, Optic neuritis, Optic atrophy  |
| 4    | <b>Intraocular Tumors:</b><br>Tumors of uveal tract, Tumors of retina  |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. The Eye Book: Eyes and Eye Problems Explained By Ian Grierson

## NEURO OPHTHALMOLOGY- OPH16205

| UNIT | CONTENTS  |
|------|---|
| 1    | <b>Visual pathways (Normal):</b><br>Neurological disorder, Hemicrania, Lesions of various level of visual pathway, Optic nerve, Optic tract, Optic Chiasma, Nuclear lesion, Cortical lesion |
| 2    | <b>Ocular motor system &amp; Neurological disorder</b><br>Extraocular muscle paralysis, Nystagmus   |
| 3    | <b>Vascular Disorder</b><br>Intracranial Aneurysms, AV fistula, Sub Arachnoid Haemorrhage, Ischemic syndrome, Cerebral Haemorrhage & thrombosis   |
| 4    | Cortical Blindness  |
| 5    | Migraine  |
| 6    | <b>Infections:</b><br>Meningitis, Encephalitis, Syphilitic infection  |
| 7    | <b>Degenerating Disease</b><br>Multiple sclerosis   |
| 8    | Intracranial tumors   |
| 9    | Head injury & ocular manifestations   |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

A. Neuro-Ophthalmology: The Practical Guide By Leonard A. Levin

## EYE & SYSTEMIC DISEASE- OPH16206

| UNIT | CONTENTS  |
|------|---|
| 1    | <b>Immunopathological reaction:</b><br>Acute anaphylactic reaction ,Dependent eye, Immune complex types, Cell mediated, Stimulating   |
| 2    | <b>Ocular changes in various disorders:</b><br>Haematological Anaemia, Hypertension, Infection, Malaria, Meningitis, Encephalitis, Endocrine, Graves disease, Metabolic disease, Muscle disorder, Myasthesia gravis, Muscular dystrophy, Inherited disorder, Retinitis Pigmentosa, Down syndrome , Sting Weber Syndrome, Albinism, Marfan's syndrome, Van Hippal, Lindens Disease |
| 3    | <b>Diabetes &amp; Eye-Diabetic changes:</b><br>Diabetes & Eye-Diabetic changes  |
| 4    | <b>Various Retinopathies:</b><br>Hypertensive retinopathy, Occlusive retinopathies, Retinopathy of prematurity  |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Handbook of Pediatric Eye And Systemic Disease By Kenneth Weston Wright-Springer
- B. The eye and systemic disease by Frederick A. Mausolf, Illustrated Publisher Mosby, 1975

**PREVENTIVE & COMMUNITY OPHTHALMOLOGY- OPH16207**

| UNIT | CONTENTS  |
|------|---|
| 1    | <b>Blindness:</b><br>Definition, Causes, Aetiology, Control of blindness  |
| 2    | <b>Eye care types:</b><br>Primary eye care, Secondary eye care, Tertiary eye care   |
| 3    | Mobile eye services   |
| 4    | <b>Specific cause of blindness and approach to prevention of Blindness:</b><br>Cataract, Glaucoma, Diabetic retinopathy, Childhood blindness, Nutritional Blindness, Trachoma, Onchocerciasis, Macular disorder |
| 5    | Eye Bank, Corneal preservation, Lid surgery, Corneal surgery, Cataract surgery, Glaucoma surgery, Detachment surgery, Lacrimal apparatus Surgery, Squint surgery  |
| 6    | <b>Ocular anaesthesia:</b><br>Anaesthesia in eye- Topical anaesthesia, Blocks, Facial blocks, Retro bulbar blocks, Peri bulbar blocks   |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Community Ophthalmology-P.J. Graham
- B. Textbook of Ophthalmology by H V Nema

**CONTACT LENS-LVA AND VISUAL FUNCTIONS ASSESSMENT – OPH16201P**

| UNIT | CONTENTS                               |
|------|--|
| 1    | Lens Type                              |
| 2    | Optics of contact lenses visual acuity |
| 3    | Field of vision                        |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

**INTRAOCULAR IMPLANT & REFRACTORY SURGERY-**  
**OPH16202P**

| UNIT | CONTENTS                             |
|------|--------------------------------------|
| 1    | Optics of intraocular implants       |
| 2    | Optics of refractive surgeries       |
| 3    | Optics results of refractory surgery |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Cataract and Refractive Surgery By Thomas Kohnen, Douglas D. Koch, Springer
- B. Refractive Surgery By Helen K. Wu, Thieme

**EYE & SYSTEMIC DISEASE – OPH16206P**

| UNIT | CONTENTS                     |
|------|------------------------------|
| 1    | Immune pathological reaction |
| 2    | Diabetes & eye               |
| 3    | Various retinopathies        |

**LEARNING SOURCE:** Self Learning Materials

**ADDITIONAL READINGS:**

- A. Handbook of Pediatric Eye and Systemic Disease edited by Kenneth Weston Wright, Peter H. Spiegel, Lisa S. Thompson, Springer
- B. The eye and systemic disease by Frederick A. Mausolf, Illustrated Publisher Mosby, 1975