

Bachelor of Optometry

BOPT-1st Semester

Paper-1 General Anatomy

40 hours

S.No	TOPICS TO BE COVERED	Domain	HOURS
Module 1	Introduction to human body	Must Know <ul style="list-style-type: none"> • Introduction to Anatomy, terms and terminology. Regions of Body, Cavities and systems. • Cell & various types of tissues of the body • Epithelium & glands of body with example 	5
Module 2	Embryology and development	Must Know <ul style="list-style-type: none"> • Spermatogenesis • oogenesis • ovulation • Fertilization • Placenta 	4
Module 3	Skeletal system	Must Know <ul style="list-style-type: none"> • Bone • Cartilage • Joints • Muscles of the body Desirable to Know <ul style="list-style-type: none"> • Nerve muscle junction • Tendons 	4
Module 4	Circulatory System	Must Know <ul style="list-style-type: none"> • Heart, Pericardium, Cardiac cycle • The blood- RBC, WBC, Platelets ,plasma, Hemoglobin Desirable to Know <ul style="list-style-type: none"> • Main arteries & veins of body & lymphatic system 	4
Module 5	Digestive system	Must Know <ul style="list-style-type: none"> • Parts of gastro intestinal tract, Liver--The gall bladder, Pancreas & spleen, and functions of each part Desirable to Know <ul style="list-style-type: none"> • Peritoneum 	4
Module 6	Respiratory System	Must Know <ul style="list-style-type: none"> • Airway, lungs ,thoracic cavity, Nose & para-nasal sinuses 	3

Module 7	Endocrine organs of body	Must Know <ul style="list-style-type: none"> • Pituitary , thyroid, parathyroid , pancreas, Adrenal gland • Diabetes mellitus 	3
Module 8	Excretory system	Must Know <ul style="list-style-type: none"> • Kidney, ureter, urinary bladder, urethra 	3
Module 9	Reproductive system	Must Know <ul style="list-style-type: none"> • Male and female reproductive organs • Mammary glands • Male and Female hormones 	3
Module 10	Central & sensory system	Must Know <ul style="list-style-type: none"> • Brain & cranial nerves, Spinal cord & peripheral nerves • Autonomic nervous system Desirable to Know <ul style="list-style-type: none"> • Neuron, Synapse, Reflex action • Cerebro-spinal fluid 	4
Module 11	Sensory Organs	Must Know <ul style="list-style-type: none"> • Skin, Ear, Eye, Nose & Tongue 	3

First Semester- Paper-2 GENERAL PHYSIOLOGY

40 hours

S.No	TOPICS TO BE COVERED	Domain	HOURS
Module 1	Introduction to human body	Must Know <ul style="list-style-type: none"> • Physiology of cell organelles, • Cell division in brief 	4
Module 2	Skeletal system	Must Know <ul style="list-style-type: none"> • Functions of Bones, Cartilages, Muscles • Nerve muscle junction Desirable to Know <ul style="list-style-type: none"> • Transmission of nerve impulse 	4
Module 3	Circulatory System	Must Know <ul style="list-style-type: none"> • Cardiac cycle • Heart sounds • Blood pressure • ECG, The Blood-RBC, WBC, Platelets, Plasma, Haemoglobin, Blood groups, • Rh system, Blood donation 	4
Module 4	Digestive system	Must Know <ul style="list-style-type: none"> • Process of digestion with functions of different digestive organs 	4
Module 5	Respiratory System	Must Know <ul style="list-style-type: none"> • Physiology of respiration, exchange of gases between lungs and blood. 	4
Module 6	Endocrine organs of body	Must Know <ul style="list-style-type: none"> • Hormones secreted by different glands of body and their functions 	4
Module 7	Excretory system	Must Know <ul style="list-style-type: none"> • Physiology of urine formation 	4
Module 8	Reproductive system	Must Know <ul style="list-style-type: none"> • Physiology of reproduction in brief and lactation 	4
Module 9	Nervous system	Must Know <ul style="list-style-type: none"> • Functions of different parts of nervous system, neuron, Synapse, Reflex action • Transmission of nerve impulse • EEG, Cerebro-spinal fluid 	4

1st Semester

Paper- 3

Ocular Anatomy, Physiology and Bio-Chemistry

40 hours

S. No	Topic	Domain	Hours
Module 1	Embryology of the eye in general	Must Know <ul style="list-style-type: none"> Different stages of formation of eyeball from optic vesicle 	2 hours
Module 2	Different parts of eyeball and their functions	Must Know <ul style="list-style-type: none"> Functions of Eyelids, Conjunctiva, cornea, sclera, Uveal tissue, Pupil, Ciliary body, Choroid, Retina, Vitreous, Aqueous, Optic nerve 	2 hours
Module 3	Metabolic processes of eyeball	Must know <ul style="list-style-type: none"> General biochemical tests like Glycosylated Hemoglobin, LFT, KFT, Lipid profile, Thyroid function tests, Blood sugar Glycolysis, Kreb's cycle, Sorbitol Pathway 	3 hours
Module 4	Anatomy of Orbit	Must Know <ul style="list-style-type: none"> Anatomy of orbit, walls of orbit, anatomical spaces of orbit Desirable to know <ul style="list-style-type: none"> Fissures and foramina of orbit and structures passing through them Nice to know <ul style="list-style-type: none"> Immediate relations of orbit 	3 hours
Module 5	Lids and eye lid glands	Must Know <ul style="list-style-type: none"> Anatomy of eyelid and its glands Layers of eyelid, Meibomian glands 	3 hours
Module 6	Conjunctiva. Cornea and Sclera	Must Know <ul style="list-style-type: none"> Layers of cornea, conjunctiva and sclera, Why cornea is transparent Metabolism of Cornea Desirable to Know <ul style="list-style-type: none"> Blood and nerve supply of cornea 	4 hours
Module 7	Uveal tissue, Pupil, AC	Must Know	4 hours

		<ul style="list-style-type: none"> • Formation and drainage of aqueous humour • Pupillary reactions • Contents of AC <p>Desirable to know</p> <ul style="list-style-type: none"> • Layers of iris, ciliary body, choroid 	
Module 8	Lens and Vitreous	<p>Must Know</p> <ul style="list-style-type: none"> • Structure of lens and vitreous • Metabolism of Lens <p>Desirable to Know</p> <ul style="list-style-type: none"> • Primary vitreous, secondary vitreous 	4 hours
Module 9	Retina, Optic nerve	<p>Must Know</p> <ul style="list-style-type: none"> • Layers of retina • Parts of optic nerve • Rhodopsin Cycle <p>Desirable to know</p> <ul style="list-style-type: none"> • Blood supply of optic nerve, Regeneration of optic nerve • Is optic nerve a true nerve? 	4 hours
Module 10	Ocular Muscles and Movements of eyeball	<p>Must Know</p> <ul style="list-style-type: none"> • Intra ocular and extra-ocular muscles of eyeball and muscles of eyelids, their actions, nerve supply • Ductions, Versions, Vergences <p>Desirable to know</p> <ul style="list-style-type: none"> • Positions of gaze 	3 hours
Module 11	Neurophysiology of eyeball	<p>Must Know</p> <ul style="list-style-type: none"> • Visual pathway • Pupillary reflexes-- Light reflex, Near reflex, Psycho-sensory reflex • Sympathetic and parasympathetic nervous system in relation to eyeball. • Visual acuity and form sense • Color vision, night vision, visual fields, BSV <p>Desirable to Know</p> <ul style="list-style-type: none"> • Vascular supply of eyeball • Nerve supply of eyeball 	5hours

Module 12	Lacrimal apparatus	Must Know <ul style="list-style-type: none">• Anatomy of lacrimal apparatus--Lacrimal Puncta, canaliculi, sac, Naso- lacrimal Duct• Tear film and its pH	3
------------------	--------------------	--	---

**1st Semester
Paper-4**

PHYSICAL AND GEOMETRICAL OPTICS

40 hrs.

S. No	Topic	Domain	Hours
Module 1	Elementary basis of light	<p>Must Know</p> <ul style="list-style-type: none"> • Basic definitions and laws related to light- Reflection, Refraction, Diffraction, Polarization, Interference, Law of inverse square • Clinical applications and examples from day to day life <p>Desirable to know</p> <ul style="list-style-type: none"> • Electromagnetic spectrum and its effect on human eye <p>Nice to know</p> <ul style="list-style-type: none"> • Propagation of light • How do we see • Laser interferometer 	10 hours
Module 2	Types of Lenses	<p>Must Know</p> <ul style="list-style-type: none"> • How to identify and determine power of a lens manually • Types of lenses, Uses of a lens • Lensometer <p>Desirable to know</p> <ul style="list-style-type: none"> • Back vertex power • Image formation by convex and concave lenses • Combination of lenses • Decentration of a lens, Prentice rule <p>Nice to Know</p> <ul style="list-style-type: none"> • Thin lens equation • Thick lens equation 	5 hours
Module 3	Aberrations of lenses and eyeball	<p>Must Know</p> <ul style="list-style-type: none"> • Different types of optical aberrations in lenses and eyeball— Spherical, Chromatic, peripheral <p>Desirable to know</p> <ul style="list-style-type: none"> • How to make aberration free lenses <p>Nice to know</p> <ul style="list-style-type: none"> • Coma • Distortion 	4 hours
Module 4	Prisms	<p>Must Know</p> <ul style="list-style-type: none"> • Definition • Nomenclature 	3 hours

		<ul style="list-style-type: none"> • Uses Desirable to know <ul style="list-style-type: none"> • How to detect prism • How to measure power of a prism Nice to know <ul style="list-style-type: none"> • Compounding and resolving prism power 	
Module 5	Strum's Conoid	Must Know <ul style="list-style-type: none"> • Definition and formation Desirable to know <ul style="list-style-type: none"> • Clinical application Nice to know <ul style="list-style-type: none"> • Ray diagram 	2 hours
Module 6	How to check power of unknown lens	Must Know <ul style="list-style-type: none"> • Lensometer • Manual neutralization method 	4 hours
Module 7	Effectivity of lens	Must Know <ul style="list-style-type: none"> • Back vertex power • Back vertex distance Nice to know <ul style="list-style-type: none"> • Gauss theorem 	2 hours
Module 8	Focimeter	Must Know <ul style="list-style-type: none"> • Uses • How to operate, How to mark optical center and axis of a cylindrical lens • Principle • Sources of error Nice to know <ul style="list-style-type: none"> • Ray diagram 	6 hours
Module 9	Prismatic effect & Decentration, Prentice rule	Must Know <ul style="list-style-type: none"> • Prentice Rule • Effect of decentration Desirable to know <ul style="list-style-type: none"> • Uses of decentration 	4 hours

2nd Semester

Paper-1

Ocular Pathology and Microbiology Theory

40 hours

S. No	Topic	Domain	Hours
Module 1	HAEMATOLOGY	Must Know <ul style="list-style-type: none">• Blood Cells and blood collection techniques• Haemoglobin estimation• Total leucocyte count• Differential leucocyte count• Erythrocyte sedimentation rate• Peripheral blood film – staining, significance of a peripheral smear• Bleeding time, clotting time	3 hours
Module 2	CLINICAL PATHOLOGY	Must Know <ul style="list-style-type: none">• Urine collection methods• Physical Examination of Urine• Chemical Examination of Urine• Microscopic Examination of Urine	3 hours
Module 3	HISTOPATHOLOGY	Desirable to Know <ol style="list-style-type: none">1. Grossing of tissue2. Tissue processing3. Fixation of tissue4. Section cutting5. Staining – Hematoxylin & Cosin and Special Stains	4 hours
Module 4	Introduction to Microbiology and Classification	Must Know <ul style="list-style-type: none">• Classification of Bacteria, Viruses and Fungi.• Staining- Gram, ZN, Capsule staining Desirable to Know <ul style="list-style-type: none">• Structure of bacteria, shapes of Bacteria	2 hours
Module 5	Gram Positive Bacteria	Must Know <ul style="list-style-type: none">• <u>Cocci</u>• Staphylococcus, Streptococcus,• Pneumococci	4 hours

		<ul style="list-style-type: none"> • <u>Bacilli</u> • Corynebacterium • Mycobacteria <p>Desirable To Know</p> <ul style="list-style-type: none"> • Bacillus-(B.anthraxis, B.cereus). • Actinomyces • Nocardia 	
Module 6	Gram Negative Bacteria	<p>Desirable to Know</p> <ul style="list-style-type: none"> • Gram negative Cocci and Bacilli • <u>Cocci</u>---Gonococci, Meningococci. • Moraxella lacunata • <u>Bacilli</u> --Pseudomonas • Haemophilus, • Enterobacteriaceae, Brucella • Spirochetes (Treponema) 	4 hours
Module 7	Fungi-saprophytic and pathogenic	<p>Must Know</p> <ul style="list-style-type: none"> • Morphological Classification of fungi <p>Desirable to Know</p> <ul style="list-style-type: none"> • Fungi of ocular importance-- Aspergillus, Candia, Histoplasma <p>Nice to know</p> <ul style="list-style-type: none"> • Dermatophyte • Coccidioides • Blastomyces, 	4 hours
Module 8	Virus	<p>Must Know</p> <ul style="list-style-type: none"> • Morphology, Classification of viruses on the basis of presence of nucleic acid <p>Desirable to Know</p> <ul style="list-style-type: none"> • Herpes viruses, hepatitis viruses, Human immune-deficiency viruses. 	6 hours
Module 9	Aseptic Techniques	<p>Must Know</p> <ul style="list-style-type: none"> • Define Sterilization, Disinfection, and Antiseptics. • Physical Methods of Sterilization • Chemical Methods of Sterilization 	6 hours

Module 10	Chlamydia and parasites	Must Know <ul style="list-style-type: none">• Classification of ocular parasites• Brief description of parasites of ocular importance-chlamydia.	4 Hours
------------------	-------------------------	--	------------

**2nd Semester
Paper-3**

Clinical Examination of Visual System

40 hours

S. No	Topic	Domain	Hours
Module 1	History Taking of ophthalmic patient	Must Know <ul style="list-style-type: none"> • Chief complaints, History of present illness, h/o Past illness, Family history, Personal history, Treatment history, Menstrual history with examples and relevance. 	7 hours
Module 2	Visual acuity testing	Must Know <ul style="list-style-type: none"> • Snellen's chart Desirable to know <ul style="list-style-type: none"> • Logmar chart Nice to know <ul style="list-style-type: none"> • Decimal system 	5 hours
Module 3	Examination of muscle balance	Must Know <ul style="list-style-type: none"> • Ductions, Versions, accommodation, convergence Desirable to Know <ul style="list-style-type: none"> • diplopia charting 	5 hours
Module 4	Slit Lamp examination anterior segment of eyeball	Must Know <ul style="list-style-type: none"> • Normal and Abnormal findings of Eyelids, conjunctiva, cornea, Iris, Pupil, Lens 	5 hours
Module 5	IOP measurement and Gonioscopy	Must know <ul style="list-style-type: none"> • Procedure, limitations, indications of Schiotz tonometry, applanation tonometry, NCT 	3 hours
Module 6	Examination of fundus with Direct, Indirect ophthalmoscope	Must know <ul style="list-style-type: none"> • Principle, Procedure, Indications, difference between direct and indirect ophthalmoscopy 	3 hours
Module 7	Examination of Lacrimal system, Orbit	Must Know <ul style="list-style-type: none"> • Procedure and Interpretation of lacrimal syringing Desirable to know <ul style="list-style-type: none"> • Exophthalmometer 	3 hours
Module 8	Visual field charting	Must Know <ul style="list-style-type: none"> • Automated perimeter • Amsler grid Desirable to Know	4 hours

		<ul style="list-style-type: none">• Confrontation method• Lister perimeter	
Module 9	Neuro-ophthalmological examination	Must Know <ul style="list-style-type: none">• Aesthesiometer• Ocular movements• Pupillary reactions	5hours

Second Semester
Paper-2
Paper Code

OCULAR PHARMACOLOGY ---40 hours

S. No	Topic	Domain	Hours
Module 1	Ocular Pharmacology – An introduction	Must Know <ul style="list-style-type: none"> • Definition of pharmacy and pharmacology • Routes of administration of drugs Desirable to know <ul style="list-style-type: none"> • MIC • Therapeutic concentration • Therapeutic window 	3 hours
Module 2	Autonomic nervous system	Must Know <ul style="list-style-type: none"> • Parts of ANS • Functions of ANS Desirable to know <ul style="list-style-type: none"> • Parts supplied by sympathetic and parasympathetic nervous system 	3 hour
Module 3	Miotics, Mydriatics&Cycloplegics drugs	Must Know <ul style="list-style-type: none"> • Definition • Examples Desirable to know <ul style="list-style-type: none"> • Uses • Side effects Nice to know <ul style="list-style-type: none"> • Dose schedule • Mechanism of action 	3 hours
Module 4	Antibacterial drugs	Must Know <ul style="list-style-type: none"> • Definition • Classification • Examples Desirable to know <ul style="list-style-type: none"> • Side effects Nice to know <ul style="list-style-type: none"> • Dose schedule • Mechanism of action 	2 hours
Module 5	Antifungal drugs	Must Know <ul style="list-style-type: none"> • Definition • Classification • Examples Desirable to know	2 hours

		<ul style="list-style-type: none"> • Side effects <p>Nice to know</p> <ul style="list-style-type: none"> • Dose schedule • Mechanism of action 	
Module 6	Anti-Viral drugs	<p>Must Know</p> <ul style="list-style-type: none"> • Definition • Classification • Examples <p>Desirable to know</p> <ul style="list-style-type: none"> • Side effects <p>Nice to know</p> <ul style="list-style-type: none"> • Dose schedule • Mechanism of action 	2 hours
Module 7	Anti-inflammatory drugs	<p>Must Know</p> <ul style="list-style-type: none"> • Definition • Classification • Examples <p>Desirable to know</p> <ul style="list-style-type: none"> • Uses • Side effects <p>Nice to know</p> <ul style="list-style-type: none"> • Dose schedule • Mechanism of action 	2 hours
Module 8	Anti-glaucoma drugs	<p>Must Know</p> <ul style="list-style-type: none"> • Definition • Classification • Examples <p>Desirable to know</p> <ul style="list-style-type: none"> • Side effects <p>Nice to know</p> <ul style="list-style-type: none"> • Dose schedule • Mechanism of action 	2 hours
Module 9	Ophthalmic dyes	<p>Must Know</p> <ul style="list-style-type: none"> • Examples <p>Desirable to know</p> <ul style="list-style-type: none"> • Uses • Side effects <p>Nice to know</p> <ul style="list-style-type: none"> • How to use 	2 hours
Module	Local Anaesthetics	<p>Must Know</p>	2 hours

10		<ul style="list-style-type: none"> • Definition • Classification • Examples Desirable to know <ul style="list-style-type: none"> • Uses • Side effects Nice to know <ul style="list-style-type: none"> • Dose schedule • Mechanism of action 	
Module 11	Ophthalmic preservatives	Must Know <ul style="list-style-type: none"> • Examples Desirable to know <ul style="list-style-type: none"> • Uses • Side effects 	2 hours
Module 12	Ocular lubricants	Must Know <ul style="list-style-type: none"> • Examples Desirable to know <ul style="list-style-type: none"> • Uses • Mechanism of action 	1 hour
Module 13	Ocular irrigating solutions	Must Know <ul style="list-style-type: none"> • Examples Desirable to know <ul style="list-style-type: none"> • Uses • Mechanism of action 	1 hour
Module 14	Ocular antiseptics & disinfectants	Must Know <ul style="list-style-type: none"> • Examples Desirable to know <ul style="list-style-type: none"> • Uses • Mechanism of action 	2 hours
Module 15	Visco-elastic agents	Must Know <ul style="list-style-type: none"> • Examples Desirable to know <ul style="list-style-type: none"> • Uses • Side effects 	2 hour
Module 16	Anti-cataract agents	Must Know <ul style="list-style-type: none"> • Examples Desirable to know <ul style="list-style-type: none"> • Uses • Mechanism of action 	1 hour
Module 17	Contact lens solution	Must Know <ul style="list-style-type: none"> • Ingredients Desirable to know <ul style="list-style-type: none"> • Uses 	2 hour

		<ul style="list-style-type: none"> • Mechanism of action 	
Module 18	Chelating agents	Must Know <ul style="list-style-type: none"> • Examples Desirable to know <ul style="list-style-type: none"> • Uses • Mechanism of action 	2 hour
Module 19	Immunosuppressive agents	Must Know <ul style="list-style-type: none"> • Definition • Examples Desirable to know <ul style="list-style-type: none"> • Uses • Side effects Nice to know <ul style="list-style-type: none"> • Dose schedule • Mechanism of action 	2 hours
Module 20	Anti-allergic agents	Must Know <ul style="list-style-type: none"> • Definition • Examples Desirable to know <ul style="list-style-type: none"> • Uses • Side effects Nice to know <ul style="list-style-type: none"> • Dose schedule • Mechanism of action 	2 hours

2nd Semester

Paper

Visual Optics-I

40 hours

S. No	Topic	Domain	Hours
Module 1	Review of geometrical optics	<p>Must Know</p> <ul style="list-style-type: none"> • Light and its properties • Vergence and power • Sign convention <p>Desirable to know</p> <ul style="list-style-type: none"> • Magnification and field of view of a lens 	10 hours
Module 2	Emmetropia & Ammetropia	<p>Must Know</p> <ul style="list-style-type: none"> • Myopia • Hypermetropia • Astigmatism • Aphakia/ Pseudophakia • Anisometropia <p>Desirable to know</p> <ul style="list-style-type: none"> • Anisekonia • Amblyopia <p>Nice to Know</p> <ul style="list-style-type: none"> • Growth of eyeball in relation to ref errors 	10 hours
Module 3	Growth of eye ball	<p>Must know</p> <ul style="list-style-type: none"> • Growth of eyeball in relation to refractive errors 	5 hour
Module 4	Retinoscopy	<p>Must Know</p> <ul style="list-style-type: none"> • Definition • How to do • Distance and Drug Factors • Difficulties faced and solution <p>Desirable to Know</p> <ul style="list-style-type: none"> • Subjective verification of refraction by Duochrome Test, Cross cylinder, Pin Hole, Astigmatic Fan test, Slit test 	10 hour
Module 5	Transposition	<p>Must Know</p> <ul style="list-style-type: none"> • Simple • Toric <p>Desirable to Know</p> <ul style="list-style-type: none"> • Clinical significance 	5hours

Third Semester
Paper-1
Paper Code

Ocular Diseases-1

---40 hours

S. No	Topic	Domain	Hours
Module 1	Diseases of conjunctiva	<p>Must Know</p> <ul style="list-style-type: none"> • Etiology, clinical features, management of Infective conjunctivitis, Allergic conjunctivitis, Trachoma, Pterygium <p>Desirable to know</p> <ul style="list-style-type: none"> • Concretions • Pingicula 	8 hours
Module 2	Diseases of Cornea	<p>Must Know</p> <ul style="list-style-type: none"> • Infective Keratitis • Keratoconus <p>Desirable to know</p> <ul style="list-style-type: none"> • Corneal opacities <p>Nice to know</p> <ul style="list-style-type: none"> • Filamentary keratitis • Non healing corneal ulcer • Surgeries of cornea 	8 hours
Module 3	Diseases of Sclera	<p>Must Know</p> <ul style="list-style-type: none"> • Staphyloma <p>Desirable to Know</p> <ul style="list-style-type: none"> • Basic idea about Scleritis 	4 hours
Module 4	Diseases of Uveal Tissue	<p>Must Know</p> <ul style="list-style-type: none"> • Etiology, Clinical features, Management of anterior Uveitis <p>Desirable to know</p> <ul style="list-style-type: none"> • Coloboma of uveal tissue 	8 hours
Module 5	Diseases of Lens	<p>Must know</p> <ul style="list-style-type: none"> • Etiology, Classification, Management of Cataract-congenital and acquired • Types of surgeries • Complications of surgeries <p>Desirable to know</p> <ul style="list-style-type: none"> • Dislocation and subluxation of lens 	12 hours

Third Semester
Paper-2
Paper Code
OPTOMETRIC INSTRUMENTS-1

40 hours

S. No	Topic	Domain	Hours
Module 1	Refractive Instruments	<p>Must Know</p> <ul style="list-style-type: none"> • Direct Ophthalmoscope • Indirect Ophthalmoscope • Retinoscope • Auto-refractometer • Lensometer • Projection charts • Trial frame design <p>Desirable to know</p> <ul style="list-style-type: none"> • Genewa lens measure • Nerve fibre analyzer <p>Nice to Know</p> <ul style="list-style-type: none"> • Pupillometer 	16 Hours
Module 2	Cornea Examination	<p>Must Know</p> <ul style="list-style-type: none"> • Keratometer <p>Desirable to know</p> <ul style="list-style-type: none"> • Specular Microscope • Aesthesiometer <p>Nice to know</p> <ul style="list-style-type: none"> • Placido Disc 	8 Hours
Module 3	Dark adaptometer, Exophthalmometer	<p>Must Know</p> <ul style="list-style-type: none"> • Exophthalmometer <p>Desirable to Know</p> <ul style="list-style-type: none"> • Dark adaptometer 	3Hours
Module 4	Slit Lamp Examination	<p>Must Know</p> <ul style="list-style-type: none"> • How to use <p>Desirable to Know</p> <ul style="list-style-type: none"> • Techniques of examination <p>Nice to Know</p> <ul style="list-style-type: none"> • Slit Lamp Photography 	8 Hours
Module 5	Tonometers	<p>Must know</p> <ul style="list-style-type: none"> • Schiottz tonometer Technique, Advantages, Disadvantages, Sterilization • Applanation tonometer 	5 Hours

		<ul style="list-style-type: none">• NCT Desirable to know <ul style="list-style-type: none">• Perkins tonometer	
--	--	--	--

Third Semester
Paper-3
VISUAL OPTICS-2

40 hours

S. No	Topic	Domain	Hours
Module 1	Accommodation and Convergence	<p>Must Know</p> <ul style="list-style-type: none"> • Far Point • Near Point • Presbyopia • Convergence insufficiency <p>Desirable to Know</p> <ul style="list-style-type: none"> • Range and Amplitude of accommodation • Mechanism of accommodation • Spasm of accommodation, Paralysis of accommodation <p>Nice to know</p> <ul style="list-style-type: none"> • Types of convergence • AC/A ratio • Theories of accommodation 	8 hours
Module 2	Schematic eye, Reduced eye	<p>Must Know</p> <ul style="list-style-type: none"> • Basic concept of schematic eye • Reduced eye <p>Desirable to Know</p> <ul style="list-style-type: none"> • Listing reduced eye • Donders' reduced eye 	5 hour
Module 3	Sturm's Conoid	<p>Must know</p> <ul style="list-style-type: none"> • Definition • ray diagram <p>Desirable to know</p> <ul style="list-style-type: none"> • Clinical significance and how to relate sturm's conoid with diff. types of astigmatism 	4 hour
Module 4	Axes and angles of eyeball	<p>Must know</p> <ul style="list-style-type: none"> • Optical Axis • Visual Axis • Angle Kappa <p>Desirable to know</p> <ul style="list-style-type: none"> • Pupillary Axis • Angle Alpha and gamma 	4 hour

Module 5	Ghost Images	Must Know <ul style="list-style-type: none"> • Definition • Mechanism • Treatment Desirable to Know <ul style="list-style-type: none"> • Ray Diagram 	4 hour
Module 6	Keratoconus	Must Know <ul style="list-style-type: none"> • Definition and types • How to detect • Treatment Desirable to Know <ul style="list-style-type: none"> • Types 	5 hour
Module 7	Effective Power of Spectacles	Must Know <ul style="list-style-type: none"> • Effect of Vertex on power of spectacle lens Desirable to Know <ul style="list-style-type: none"> • Spectacle magnification and minification and its effect on accommodation and convergence. 	10 hours

**Third Semester
Paper-4
Paper Code**

Public Health and Community Optometry

---40 Hours

S.No	TOPICS TO BE COVERED	TEACHING HOURS	Domain
Module -1	Public Health optometry	Must Know <ul style="list-style-type: none"> • Concepts and implementation, Stages of diseases • Dimensions, determinants and indicators of health. 	4 hours
Module -2	Epidemiology of blindness	Must Know <ul style="list-style-type: none"> • Prevalence, incidence and distribution of visual impairment • Causes of blindness in India • Definition of blindness and visual impairment 	8 hours
Module -3	Vision 2020- the right to sight	Must Know <ul style="list-style-type: none"> • NPCB, DBCS • Mission, aims, goals and objectives of vision 2020 • Structure • World Health Assembly resolutions on prevention of blindness • Strategies and objectives for the period Desirable to know <ul style="list-style-type: none"> • Coordination at global, regional and national level • Monitoring and impact assessment 	8 hours
Module -4	Survey Methodology	Desirable to know <ul style="list-style-type: none"> • How to conduct a survey • Types of study-- Case-control study, cross sectional study, cohort study • Aims and objectives • Inclusion and exclusion criteria 	5 hours
Module -5	Health Education	Must Know	5 hours

		<ul style="list-style-type: none"> • Definition • Elements • Primary health care • Modes and intervention of prevention • Xerophthalmia 	
Module -6	Health Programs in India	<p>Must Know</p> <p>Trachoma prevention</p> <p>Vitamin A prophylaxis</p> <p>School Health Programs--screening and mid-day meal programs</p> <p>Organization of eye camps</p> <p>Rehabilitation of the blind</p>	5 hours
Module -7	Ethical, Legal, Social and scientific issues in relation to Optometry	<p>Must know</p> <ul style="list-style-type: none"> • Definition and scope of Medical ethics, Code of conduct, malpractice, Negligence • Valid consent, Professional confidentiality, Rights of patients, <p>Desirable to know</p> <ul style="list-style-type: none"> • Professional indemnity insurance 	5 hours

**Fourth Semester
Paper-1
Paper Code**

Ocular Diseases-2

---40 hours

S. No	Topic	Domain	Hours
Module 1	Glaucoma	Must know <ul style="list-style-type: none"> • Definition, Types, Clinical features, Investigations, Treatment of primary glaucoma • Anti-glaucoma drugs Desirable to know <ul style="list-style-type: none"> • Normotensive glaucoma • Surgeries of glaucoma Nice to know <ul style="list-style-type: none"> • Secondary glaucomas 	8 hours
Module 2	Diseases of Vitreous, Retina and Optic nerve	Must Know <ul style="list-style-type: none"> • Basic idea about retinal detachment, Optic neuritis and vitreous hemorrhage, Asteroid hyalosis, synchia is scintillans Desirable to Know <ul style="list-style-type: none"> • Papilloedema, optic Atrophy 	8 hours
Module 3	Ocular manifestations of systemic diseases	Desirable to Know <ul style="list-style-type: none"> • Ocular changes in Diabetes, Hypertension, Xerophthalmia, TB 	8 hours
Module 4	Diseases of eyelids, Lacrimal apparatus and Orbit	Must Know <ul style="list-style-type: none"> • Etiology, Clinical features, management of Sty, Chalazion Desirable to Know <ul style="list-style-type: none"> • Dacryocystitis, Entropion, Ectropion, Ptosis Nice to Know <ul style="list-style-type: none"> • Orbital cellulitis • Meibomitis 	8 hours
Module 5	Ocular injuries	Must Know <ul style="list-style-type: none"> • Basic idea about Clinical features, investigations and treatment of Blunt trauma, Chemical burns Desirable to Know <ul style="list-style-type: none"> • Penetrating injuries, Radiational injuries, Thermal injuries 	8 hours

Fourth Semester
Paper-2
Paper Code

OPTOMETRIC INSTRUMENTS-2

40 hours

S. No	Topic	Domain	Hours
Module 1	Perimeters, Synoptophore	Must know <ul style="list-style-type: none"> • How to use automated perimeter • Amsler grid Desirable to know <ul style="list-style-type: none"> • Confrontation method • Lister perimeter 	10 Hours
Module 2	Pachymeters, Contrast sensitivity tests, Glare acuity tests, Colour vision tests	Must Know <ul style="list-style-type: none"> • How to use • How to interpret Desirable to Know <ul style="list-style-type: none"> • Limitations 	10 Hours
Module 3	OCT, A and B Scan, Fundus Camera, Nerve Fibre analyser	Must Know <ul style="list-style-type: none"> • Principle • How to use • How to interpret Desirable to Know <ul style="list-style-type: none"> • Indications • Contra-indications 	10 hours
Module 4	Specular Microscopy, Aesthesiometer, Pupillometer, Exophthalmometer	Must Know <ul style="list-style-type: none"> • Principle • How to use • How to interpret Desirable to Know <ul style="list-style-type: none"> • Indications Contra-indications	10

Fourth Semester
Paper-3
Paper Code

Binocular Vision and Orthoptics -1

40 hours

S.No	Units	Contents	Teaching hours
1	Anatomy and physiology of EOM	<p>Must know</p> <ul style="list-style-type: none"> • Types, origin , Action , innervations, <p>Desirable to know</p> <ul style="list-style-type: none"> • Microscopic structure 	4
2	Ocular kinematics and ocular motility	<p>Must know</p> <ul style="list-style-type: none"> • Ocular movement- Duction, versions, Vergence • Laws of ocular movement • Fick's Law, Position of gaze • Yoke muscles, antagonist, synergist, agonist <p>Desirable to know</p> <ul style="list-style-type: none"> • Ocular movement – saccadic ,pursuits, optokinetics 	6
3	Binocular Single vision	<p>Must know</p> <ul style="list-style-type: none"> • Grades of BSV • Advantages of BSV • Test for grades of BSV <p>Desirable to know</p> <ul style="list-style-type: none"> • Development of BSV 	4
4	Psychophysics and Sensory Aspect of BSV	<p>Must know</p> <ul style="list-style-type: none"> • Horopter- Concepts , types , method of measurement • Visual direction • Diplopia/ confusion • Retinal correspondence • Suppression <p>Desirable to know</p> <ul style="list-style-type: none"> • Stereopsis – Binocular and monocular clues • Visual space and physical space • Retinal disparity, Panum's area 	12
5	Amblyopia	<p>Must know</p> <ul style="list-style-type: none"> • Definition 	7

		<ul style="list-style-type: none"> • Concepts • Classification of Amblyopia • Clinical features of amblyopia • Investigation of amblyopia, • Amblyopic therapy 	
6	Nystagmus	<p>Must know</p> <ul style="list-style-type: none"> • Definition • Types of nystagmus • Clinical examination of nystagmus • Treatment of nystagmus <p>Desirable to know</p> <ul style="list-style-type: none"> • Etiology 	3
7	Synoptophore	<p>Must know</p> <ul style="list-style-type: none"> • Parts • Working 	4

Bachelor of Optometry
Fourth Semester
Paper-4
Paper Code

INVESTIGATIONS IN CLINICAL OPHTHALMOLOGY-1

—30 hours

S. No	Topic	Domain	Hours
Module 1	Physiological Tests	Must Know <ul style="list-style-type: none"> • Indications, Procedure, Interpretation of Testing of visual acuity • Colour Vision • Perimetry • Contrast Sensitivity Desirable to know <ul style="list-style-type: none"> • Glare testing • Dark Adaptometry 	8 Hours
Module 3	Tests for anterior segment of eyeball	Must Know <p style="margin-left: 20px;">Indications, Procedure, Interpretations, Uses and Limitations of</p> <ul style="list-style-type: none"> • Slit Lamp examination • Keratometry • Specular Microscopy • Pentacam • Syringing • Gonioscopy • Pachymetry • Tonometry Desirable to know <ul style="list-style-type: none"> • UBM • Specular Microscopy • Tonography • Ocular Photography -anterior segment 	16 Hours
Module 3	Checking Spectacle Power	Must Know <ul style="list-style-type: none"> • Lensometry 	6

**Fourth Semester
Paper-5**

Contact lens-1

40 Hours

S.No	Units	Contents	Teaching hours
1	Anatomy and physiology of cornea	Must know <ul style="list-style-type: none"> • Dimension of cornea • Layer of cornea • Corneal physiology and contact lens 	4
2	Instrument for contact lens evaluation	Must know <ul style="list-style-type: none"> • Slit-Lamp • Topography • Placid disk • Specular microscope • Keratometry 	6
3	Introduction to contact lens	Must know <ul style="list-style-type: none"> • Contact lens materials- classification ,concept , advantages and disadvantages • Important of contact lens material properties • FDA classification • Optics & principle of contact lens • Indications & Contraindications of contact lens • Contact lens manufacturing process • Identifications of contact lens types • Soft and RGP Contact lens Design Desirable to know <ul style="list-style-type: none"> • Glossary terms: Contact lenses • History of contact lens 	20
4	Preliminary assessment of contact lens	Must know <ul style="list-style-type: none"> • Patients screening • Slit-Lamp examination for anterior segment • Keratometry • Corneal and pupil size measurement • Assessment of lids characteristics • Tear assessment • Spectacle refraction and calculation of ocular rx • Insertion and removal technique 	10

**Fifth Semester
Paper-1
Paper Code**

INVESTIGATIONS IN CLINICAL OPHTHALMOLOGY-2

30 hours

S. No	Topic	Domain	Hours
Module 4	Tests for posterior segment examination	Must Know Indications, Procedure, Interpretations, Uses, Limitations of <ul style="list-style-type: none"> • Fundus Fluorescein Angiography • OCT • Nerve fiber analyzer • Fundus Photography 	10 Hours
Module 5	Laser therapy in ophthalmology	Must Know <ul style="list-style-type: none"> • Indications, Procedure, Complications of • Yag Laser • Green Laser • Lasik Laser 	10 hours
Module 3	Electrophysiology	Must Know <ul style="list-style-type: none"> • ERG • EOG • VEP 	5 hours
Module 4	Specular microscopy	Must Know <ul style="list-style-type: none"> • Introduction • Procedure • Interpretation 	5 hours

Fifth Semester
Paper-2
Paper Code
CONTACT LENS-2—40 hours

S.No	Units	Contents	Teaching hours
1	Contact lens fitting procedure	<p>Must know</p> <ul style="list-style-type: none"> • Introduction to Contact lens fitting • Fitting of Spherical SCL and effect of parameter changes • Fitting of Toric SCL and effect of parameter changes • Fitting spherical RGP contact lens. Low OK, high Ok • Effect of RGP CL parameter changes on lens fitting • Fitting Toric RGP Contact lens in Astigmatism • Fitting in keratoconus • Fitting contact lens in children <p>Desirable to know</p> <ul style="list-style-type: none"> • Fitting in Aphakia • Fitting in pseudophakia 	15
2	Contact lens fitting procedure and dispensing	<p>Must Know</p> <ul style="list-style-type: none"> • Lens dispensing and patients education • Conducting after care visit • Follow-up fitting & Slit-Lamp Examination • Bifocal contact lens- Fitting in Bifocal contact lens • Contact lens solution 	10
3	Specialist contact lens	<p>Must know</p> <ul style="list-style-type: none"> • Continuous wear & extended wear lenses • Therapeutic Contact lens • Fitting procedure for therapeutic contact lens • Bandage contact lens • Contact lenses for ocular surgeries 	10

		<ul style="list-style-type: none"> • Disposable contact lens and Cosmetic contact lens • Checking finished lenses parameter 	
4	Contact lens complication and management	<p>Must know</p> <ul style="list-style-type: none"> • Care and maintenance of contact lens • Patients symptoms and clinical signs • Soft contact lens complication <ol style="list-style-type: none"> 1. Hypoxia and corneal oedema 2. Inflammation and infection 3. Lenses, and lens fit 4. Hypersensitivity and allergy 5. Solution toxicity 6. Non-compliance 7. Lens deposits 8. Reduced vision <ul style="list-style-type: none"> • RGP contact lens complication 	05

**Fifth Semester
Paper-3
Paper Code
Paper-1 Dispensing optics**

40 hours

S. No	Topic	Domain	Hours
Module 1	Ophthalmic lenses	<p>Must Know</p> <ul style="list-style-type: none"> • Manufacturing & Characteristics of different types of lenses, • Spherical, Toric, Bifocals, Progressive addition lenses • Ghost Images, Best Form lenses, Pantoscopic tilt, and its consequence • Achromatic, Aspheric. Lenticular, High Index Lenses, • Photochromatic Lenses, Polaroid Lenses, • Optical center of a lens <p>Desirable to Know</p> <ul style="list-style-type: none"> • Retrosopic tilt • Tilting of lens • Tinted Lenses, ARC lenses, Hard coat lenses, U V protective lenses, Balance lens 	14 hours
Module 2	Spectacle Frames	<p>Must Know</p> <ul style="list-style-type: none"> • Nomenclature of frames • Materials of frames • Shapes, Measurements • Repair of spectacles • Fitting of Lenses in Frames <p>Desirable to know</p> <ul style="list-style-type: none"> • Types & parts, sides, joints, frame bridge • Glazing & Edging of lenses 	10 Hours
Module 3	Test chart standards, Refraction room Standards, Projection Charts, Phoropter	<p>Must Know</p> <ul style="list-style-type: none"> • Snellen's chart • Logmar chart • Decimal chart <p>Desirable to Know</p> <ul style="list-style-type: none"> • Basic idea of Phoropter 	8 Hours
Module 4	Patient complains and management	<p>Must Know</p> <ul style="list-style-type: none"> • Headache after using spectacles-how to manage 	8 Hours

Fifth Semester
Paper-4
Paper Code

Binocular Vision and orthoptics-2

40 hours

S.No	Units	Contents	Teaching hours
1	Accommodation	Definition & theory of accommodation, Range & Amplitude of accommodation, Insufficiency & paralysis of accommodation, Spasm of accommodation, exercise and vision therapy of accommodation	5
2	Convergence	Definition, Range and Types, Convergence insufficiency, exercise and vision therapy of convergence	5
3	Strabismus	<p>Must know</p> <ul style="list-style-type: none"> • Definition • Concepts • Latent Squint • Manifest Squint • Divergent Squint • Convergent Squint • Paralytic Squint- • Vertical & restrictive squint <p>Desirable to know</p> <ul style="list-style-type: none"> • Management of strabismus 1. Head posture & its significance • 	15
4	Evaluation of strabismus	<p>Must know</p> <ul style="list-style-type: none"> • Prism bar cover test(PBCT), • Corneal reflex test- Hirschberg & PBRT, • Maddox rod Test & Maddox wing test, • Diplopia Charting , • WFDT <p>Desirable to know</p> <ul style="list-style-type: none"> • Bagolini Strighted Glass test • Hess Screen Test 	10
5	Synoptophore	<p>Must know</p> <ul style="list-style-type: none"> • Concepts • Principle • Procedure 	5

		<ul style="list-style-type: none">• Evaluation technique for strabismus• Exercise for binocular vision• Evaluation of BSV	
--	--	---	--

Sixth Semester
Paper-1
Paper Code

Low Vision Aids

40 Hours

S. No	Topic	Domain	Hours
Module 1	Low Vision Aids --- Identifying the low vision patient, Magnitude of low vision	Must Know <ul style="list-style-type: none"> • Identification and prevalence of low vision in India 	10 Hours
Module 2	Examination of low vision patient	Must Know <ul style="list-style-type: none"> • Refraction for distance and near using logmar chart, Snellen chart, contrast sensitivity charts, amsler grid, glare test 	5 Hours
Module 3	Optics of low vision devices	Must Know <ul style="list-style-type: none"> • Optics of telescopes, magnifiers Desirable to Know <ul style="list-style-type: none"> • Optics of field expanders 	5 Hours
Module 4	Eye disorders and low vision	Must Know <ul style="list-style-type: none"> • Diseases responsible for low vision in children and old age and their management--ARMD, Diabetes, Optic nerve disease, RP, Corneal diseases, Glaucoma 	5 Hours
Module 5	Demonstrating aids – optical, Non-optical, Electronic	Must Know Practical demonstration of optical devices-- Telescope, Magnifiers, Field expanders and non-optical devices	5 Hours
Module 6	Low vision aids available in market	Must Know	2 Hours

		<ul style="list-style-type: none"> • Telescopes-Galilean, Kaplerian telescopes • Magnifiers-Stand, Hand held, Bar, Sheet etc. • Non-optical devices—CCTV 	
Module 7	Children with low vision	Must Know <ul style="list-style-type: none"> • Causes of low vision in children Congenital Glaucoma, Optic Atrophy, Cong. Cataract, Nystagmus etc. and their management. 	3 Hours
Module 8	Optical devices to help people with field defects	Must Know <ul style="list-style-type: none"> • Field expanders used to correct tunnel vision 	2 Hours
Module 9	Rehabilitation of the Visually handicapped	Must Know Methods used to make a low vision person lead an independent life <ul style="list-style-type: none"> • Social • Medical • Educational rehabilitation of patient 	3 Hours

Sixth Semester
Paper-2
Paper Code

EYE BANKING

40 hours

S. No	Topic	Domain	Hours
Module 1	Publicity	Must Know <ul style="list-style-type: none"> • How to utilize Print Media • Electronic media • Social media • Greif Counselling (Relatives' counselling done at the hospital by the counsellor at the time of death) 	7 Hours
Module 2	How to donate your eyes	Must Know <ul style="list-style-type: none"> • Who can donate eyes • Who cannot donate eyes • What to do after death of near and dear • Role of Pledge Form • Role of the next of kin Desirable to know <ul style="list-style-type: none"> • How to register • who can register • how to inform eye-bank for eye donation 	8 Hours
Module 3	Collection of eyes	Must Know <ul style="list-style-type: none"> • Time within which to collect the eyes • How to prevent contamination/ infection • Legal formalities required before enucleation • Instrumentation required, method of enucleation • How to transport and use eyes. • Whole globe enucleation vs Corneo-scleral rim extraction 	5 Hours
Module 4	Preservation of eyes	Must Know <ul style="list-style-type: none"> • Latest techniques for preservation of donor Cornea- Short term, long term methods to preserve eyes. Desirable to know <ul style="list-style-type: none"> • MK Media • Optisol 	7 Hours

Module 5	Pre and post-operative Instructions	Must Know <ul style="list-style-type: none">• Do's and don'ts	5 Hours
Module 6	Human organ transplantation act 1994	Must Know <ul style="list-style-type: none">• Who can register for HOTA• Procedure for registering with HOTA• Requirements of HOTA• Penalty for violating HOTA	8 hours

Sixth Semester
Paper-3
Paper Code

MANAGEMENT OF O T

--40 hours

S. No	Topic	Domain	Hours
Module 1	Introduction to Operation Theater in general	Must Know <ul style="list-style-type: none"> • Who can enter OT • Who cannot enter OT • How to enter OT • Movement, Posture, and Communication in OT • Sterile vs Non-sterile area • 3 doors between sterile and un-sterile area • Sterilization of instruments and operation theater • How to wash instruments after use, dry, wrap and send for sterilization • How to scrub, wear gown, gloves 	10 Hours
Module 2	Drugs used in OT in relation to ophthalmology	Must Know <ul style="list-style-type: none"> • Atropine, Adrenaline, Pilocarpine, Visco-elastics, Trypan Blue dye, Ringer Lactate, common steroids and antibiotics used in OT, Local anesthetics 	5 Hours
Module 3	Sterilization procedures of operation theater and Instruments	Must Know <ul style="list-style-type: none"> • Fumigation-Procedure, its advantages and disadvantages, • Latest techniques to sterilize OT • Fogging • Cleaning of walls, OT Tables etc. – when and how • Autoclaving • Hot air oven, ETO 	10 Hours
Module 4	Instruments required for different types of ophthalmic surgeries	Must Know <ul style="list-style-type: none"> • Cataract • Glaucoma • Probing • Squint • DCR, Ptosis 	9 Hours
Module 5	Maintenance of Instruments and equipments	Must Know How to clean and maintain <ul style="list-style-type: none"> • Ophthalmic Instruments 	6 Hours

		<ul style="list-style-type: none">• Surgical Instruments• Orthoptic instruments• Optometric instruments	
--	--	---	--

*

Sixth Semester
Paper-4
Paper Code

Occupational Optometry

30 Hours

S.No	Topic to be covered	Domain	Teaching Hours
1	Introduction to occupational health, hygiene and safety	Must Know <ul style="list-style-type: none"> • Occupational Optometry • History taking in detail. • Definition of accident • Type of hazard 	6 Hours
2	Acts and Vision Standards	Must Know <ul style="list-style-type: none"> • Estimating required visual acuity using nomogram and formula • Drivers of various countries: Minimum vision requirement for distance, Near, Field, Color Vision and stereopsis. • Indian Railways: A, B , C grades • Indian Navy • National defense academy 	6 Hours
3	International bodies	Must Know <ul style="list-style-type: none"> • WHO • ILO • UNESCO • UNICEF 	6 Hours
4	Radiation Hazards	Must Know <ul style="list-style-type: none"> • Physical, Chemical, Heat thermal, electrical and biological. Radiation ,Electromagnetic spectrum ,UV & IR hazards and consequences on visual system	6 Hours
5	Occupational Hazards	Must Know <ul style="list-style-type: none"> • Types of occupational hazards • How to prevent? 	6 Hours

Sixth Semester
Paper-5
Paper Code
Paper-3 Pediatric and Geriatric Optometry

40 hours

S. No	Topic	Domain	Hours
Module 1	Introduction to Pediatric Optometry	Must Know <ul style="list-style-type: none"> Factors responsible for diseases in children- Genetic factors – Prenatal factors, Perinatal factors, Postnatal factors 	5 Hours
Module 2	Assessment of visual acuity in children	Must Know <ul style="list-style-type: none"> Retinoscopy Anterior segment examination Pupillary reactions Pediatric vision charts Desirable to know <ul style="list-style-type: none"> Fundus examination Nice to Know <ul style="list-style-type: none"> Electrophysiological tests 	5 Hours
Module 3	Refractive errors in children	Must Know <ul style="list-style-type: none"> How to do retinoscopy, subjective acceptance and correction of error in Myopia, Pseudomyopia, Hyperopia Astigmatism Management of Anisometropia, Amblyopia, Occlusion therapy Desirable to Know <ul style="list-style-type: none"> Strabismus and nystagmus, Convergence and accommodation 	15 Hours
Module 4	Introduction to Geriatric Optometry	Must Know <ul style="list-style-type: none"> Structural and physiological changes in eye in old age Macular disorders, Vascular diseases of the eye in old age 	5 Hours
Module 5	Ocular diseases common in old eye	Must Know <ul style="list-style-type: none"> Management of Cataract, Glaucoma, ARMD Desirable to know <ul style="list-style-type: none"> Corneal degenerations Nice to Know <ul style="list-style-type: none"> Lid laxity, Xanthelasma 	6 Hours
Module 6	Special considerations in ophthalmic dispensing to the elderly	Must Know <ul style="list-style-type: none"> Brief description how dispensing glasses differs in old age vs young age 	4 Hours

