

Course Title: Ophthalmic Techniques-I and Clinical Practice

Study Hours:	60+160	Marks	
Paper :	1	Theory:	120
Term :	3 rd	Practical:	30
		Time:	3Hrs

Course contents

STUDY HOURS
(THEORY +PRACTICAL)

A. ANATOMY OF THE HUMAN EYE:

20

A brief description of the human eye including the study of the followings:

- A1 Orbit.
- A2 The eye Lids
- A3 The lachrymal apparatus.
- A4 The conjunctiva.
- A5 The anterior chamber
- A6 The cornea.
- A7 The sclera.
- A8 Iris, ciliary body and pupil.
- A9 The lens.
- A10 The choroids.
- A11 The vitreous.
- A12 The retina.
- A13 The optic nerve and optic pathway, visual cortex..
- A14 Extra ocular muscles and their actions.

B OPTICS AND REFRACTION

20

- B1 Principles of optics and their application in ophthalmology.
- B2 Properties of light.
- B3 Concept of refraction, reflection and refractive index.
- B4 Types of lenses, prisms and mirror and image formation.
- B5 Concept of focal length and refractive power (diopter).
- B6 Common errors of refraction.
- B7 Optics of ophthalmic instruments.
- B8 Correction of errors of refraction.
- B9 Optics of ophthalmic instruments.
- B10 Equipment related to Optics and Refraction like Ophthalmoscope, perimeter, Tonometer, auto refractor, and Slit lamp.

C. OPTICS

10

C1 CHAPTER-1

Reflection & refraction laws of reflection & refraction, regular and irregular reflection and their examples real and virtual images

C2 CHAPTER-2 MIRRORS

10

Convex & Concave mirrors their types, focus, center of curvature & role of the mirror, focal length & center of curvature of the mirror.
 Ray diagram of concave & convex mirror. Image diagram of concave & convex mirror. Different problem for finding the focal length image position or object Position from the mirror.

C3 CHAPTER-3 LENSES

10

Convex & concave large their types, different terms like focus, focal length, principal axis, center of curvature, radius of curvature focal & aperture of the lens formula, different problem on lens formula for finding out

- C3.1 Position of the object
- C3.2 Position of the image
- C3.3 Size of the object or image
- C3.4 Magnification of the lens

C4 Chapter-4 Defects of Eye

10

- C4.1 Comparison of cameras & eye
- C4.2 Dispersion of light from critical angle
- C4.3 Angle of deviation.

D. PRINCIPLES OF OCULAR SURGERY

10

- D1 Sterilization Instruments their usage and care.
- D2 Method of Assistantship.
- D3 Behavior in the operation theatre.
- D4 Maintenance of instruments in the O.T and OPD
- D5 Preoperative and postoperative care of the ophthalmic patients.
- D6 Hospital acquired infections and their prevention.

Recommended books

- 1 Book of Ophthalmology by Chatterjee.
- 2 Parson,s Diseases of the Eye
- 3 Basic Ophthalmology by Renujogi.

Reference books.

- 1 Ophthalmic Surgery: Looseleaf and Update service by Thomas D Linquis.
- 2 A text Book of Ophthalmology by E Ahmad.

Course Title: Ophthalmic Techniques-II and Clinical Practice

Study Hours:	60+160	Marks	
Paper :	2	Theory:	120
Term :	3 rd	Practical:	30
		Time:	3Hrs

Course contents

STUDY HOURS
(THEORY +PRACTICAL)

A.	CLINICAL OPHTHALMOLOGY	10
	A brief description of the following disease and nursing care, of patients with eye disorders. Glaucoma-measurement of IOP (Tonometry)	
	Ocular injuries:	
	A1 Burns.	
	A2 Mechanical injuries.	
	A3 Laceration of the eyelids	
	A4 Foreign bodies.	
	A5 Injuries of the conjunctiva.	
	A6 Abrasions and superficial lesions of the cornea.	
	A7 Perforating injuries of the eyeball.	
	A8 Contusions of the eye ball.	
	A9 Orbital injuries.	
A.	DISEASES	10
	A1 Diseases of Lid.	
	A2 Diseases of conjunctiva.	
	AF3 Diseases of cornea.	
	A4 Diseases of uveal tract.	
	A5 Diseases of Lens (cataract).	
	A6 Diseases of Lachrymal apparatus.	
A	PHARMACOLOGY	20
	A1 Methods of drugs delivery to the eye.	
	A2 Mode of action of drugs.	
	A3 Side effects and contra indications.	
	A4 A brief review of the following classes of drugs.	
	A4.1 Local anesthetics used in ophthalmology	
	A4.2 Drugs used in glaucoma.	
	A4.3 Mydriatics and cycloplegics.	
	A4.4 Anti-infective ophthalmic drugs.	
	A4.5 diagnostic eye solution	
	A4.6 Lubricants and artificial tears.	

A LIST OF PRACTICALS 30+30

A1 Ocular Surgery

Preparation of Operation Theatre for common Ocular Surgery

- A1.1 Catract
- A1.2 Chalazion
- A1.3 Syringing
- A1.4 Dacryocystectomy
- A1.5 Glaucoma
- A1.6 Epilation
- A1.7 Strabismus

A2 OPTICS/REFRACTION 30

A2.1 Practical-I: To diagnose common error of refraction & Management in:-

- A2.1.1 Myopia
- A2.1.2 Hypermetropia
- A2.1.3 Astigmatism
- A2.1.4 Presbyopia
- A2.1.5 Anisometropia
- A2.1.6 Emetropia
- A2.1.7 Coloured vision

A2.2 HPractical-II Retinoscopy 30

- A2.2.1 Indication
- A2.2.2 Apparatus
- A2.2.3 Procedure
- A2.2.4 Precaution

A2.3 Practical-III Visual Acuity 30

- A2.3.1 Indication
- A2.3.2 Apparatus
- A2.3.3 Procedure
- A2.3.4 Precaution

A2.4 Optics 30

- A2.4.1 To verify the laws of reflection
- AA2.4.2 To verify the laws of refraction.
- A2.4.3 To find the position of an image when the position of an object from specific mirror is given.
- A2.4.4 To find the different position of the image of object from a convex lens
- A2.4.5 To determine the position of an object from a lens, by adjusting the position of a lens.

A Surgery and OPD

A1 O.T. Instruments

- A1.1 Speculum
- A1.2 Eorueal Scissors
- A1.3 Needle Holders
- A1.4 Hooks
- A1.5 Conjunctival Scissors
- A1.6 Cauty
- A1.7 Knife with blades
- A1.8 Iris Reponers
- A1.9 Stiches 10,80, silk 40
- A1.10 SIMCOR Cannula
- A1.11 IOLS
- A1.12 ViscoElasties
- AK1.13 Muscles retractors
- A1.14 Care of Microscopes & bulbs

A2. OPD.

- A2.1 Measurement of Vision
- A2.2 Snellen's test charts for distant vision and for near vision
- A2.3 Color Vision Charts
- A2.4 .Glaucoma Tests
- A2.5 Field of Vision
- A2.6 Schiotz Tonometer
- K2.7 Casual Staring

K3. Dressing and Bandagesa. How to put drops.

- K3.1 How to apply eye bandage
- K3.2 How to care FBs in eye.

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- 4 Book of Ophthalmology by Chatterjee.
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- 6 Basic Ophthalmology by Renujogi.

Reference books.

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