

## OBJECTIVES

At the end of the course, the learned shall be able to :

1. Identify common diseases of the eye
2. Diagnose and treat common diseases of the outer eye—conjunctivitis, stye, extraocular foreign body, corneal abrasion, vitamin A deficiency.
3. Recognise and initiate treatment(prior to referral) for sight threatening diseases like acute glaucoma, keratomalacia, corneal ulcer, ocular trauma, alkali/chemical injuries.
4. Demonstrate knowledge of blindness and its causation. Be an active participant in the implementation of the National programmes for control and prevention of blindness.

## COURSE CONTENTS:

Knowledge – course content

## COURSE CONTENT

Introduction

Anatomy of the eye- including Visual pathway, Extraocular muscles , /

Physiology - Aqueous humour formation, lacrimal pump, tear film, fields.

Pharmacology—ophthalmic preparations, modes of administration, Antibiotics, antivirals, antifungals, antiglaucoma drugs, mydriatics and cycloplegics, ocular toxicity of systemic, ocular medication,

Elementary optics: Strums' conoid, donders eye

Title	Must know	Desirable to know
<b>1. Acute Conjunctivitis, Trachoma, Allergic conjunctivitis, Pingecula, Pterygium, Xerosis/bitot spots, Dry eye, Angular conjunctivitis, neonatal conjunctivits, subconj hemorrhage, D/D of conjunctival and limbal nodule*</b>	√	
Chronic conjunctivitis, Dry eye, Membranous conjunctivitis, Inclusion conjunctivitis	√	

<b>2. Corneal inflammations :Corneal Ulcers – bacterial , Moorens Ulcer*, fungal, viral Vitamin A Deficiency and keratomalacia Exposure keratitis, Neuroparalytic kerattitis Corneal blindness, Eye banking, eye donation,Keratoplasty, Arcus senilis, corneal oedema,</b>	√	
3. Deep /interstitial keratitis, Degenerations and dystrophies, Overview of keratorefractive surgery.		√
<b>28. Scleritis, episcleritis</b>	√	
<b>5. Iridocylitis, Panophthalmitis, Endophthalmitis</b>	√	
6. Systemic associations of uveitis, Choroiditis, Coloboma iris, ocular albinism, Asteroid Hyalitis*		√
<b>7. Vitreous hemorrhage –causes, synchiaris scintillans*</b>	√	
8. Synchisis syntillans, Asteroid hyalosis		√
<b>9. Angle closure glaucoma, Open angle glaucoma, steroid glaucoma, lens induced glaucoma including surgery and management*</b>	√	
<b>10. Cataract and management, cong. Conditions, surgery and complications, lens abnormality including surgery*</b>	√	
11. Secondary glaucomas, Congenital glaucoma		√
<b>12. Fundus changes in Diabetes, Hypertension, anaemias, Pregnancy induced hypertension, Hematological disorders, Myopia. : Photocoagulation : Retinal vascular diseases— Central retinal occlusion, Central retinal vein occlusion, RD</b>	√	
13. Retinopathy of prematurity, Retinitis pigmentosa, retinoblastoma		√
<b>14. Papilledema, Optic neuritis, Optic atrophy.</b>	√	
<b>15. Awareness of amblyopia, Types of squint(</b>	√	

<b>Paralytic, non paralytic)</b>		
<b>16. Common causes of proptosis, Orbital cellulites, Cavernous sinus thrombosis</b>	√	
<b>17. Dacryocystitis—congenital, Acute, chronic. Epihora</b>	√	
<b>18. Inflammations, ectropion entropion, trichiasis, ptosis, lagophthalmos, symblepharon, blepharitis, Chalazion, lid</b>	√	
<b>19. Refractive error, Myopia, hypermetropia, Astigmatism, Presbyopia, aphakia/pseuophakia, Anisometropia, overview of keratorefractive surgery</b>	√	
<b>20. Chemical injuries, Open globe injuries, closed globe injuries and first aid treatment including sympathetic injuries.</b>	√	
21. Siderosis bulbi, Chalcosis, medico legal aspects		√
<b>22. Defintion and types of blindness. : Causes of blindness : Promotion of eye donation : NPCB, Vision 2020, Eye camps</b>	√	
<b>23. Symptomatic disturbances of vision, Overview of Recent advances in ophthalmology</b>	√	
24. Lasers in ophthalmology		√
<b>25. Enucleation – Indication, technique</b>		√
<b>26. Eye &amp; Systemic diseases including AIDS</b>	√	
<b>27. Causes of sudden/partial/painless diminision of vision.</b>	√	
<b>28. Ocular malignancy</b>		√
<b>29. Pharmacology – community medicine, eye drops chronic side effects of septemic medication, local anaesthetics, viscoelastic steroid and NSAIDS.</b>	√	

### Examination skills

Skills	Able to Perform Independently	Able to perform Under Guidance	Assist	Observe
1. Visual acuity test and Use of	√			

pinhole (including light perception, projection)				
2. Colour vision test		√		
3. Visual field by confrontation	√			
4. Hirschberg test to detect obvious squint	√			
5. Examination of ocular movements	√			
6. Assessment of corneal sensation	√			
7. Flourescein staining to identify corneal abrasion		√		
8. Assessment of Anterior chamber depth	√			
9. Pupillary size and reaction	√			
10. Distant direct ophthalmoscopy on dilated pupils to diagnose lens opacities		√		
11. Method of Direct ophthalmoscopy		√		
12. Schiotz's Tonometry	√			√
<b>13. Regurgitation for NLD block</b>				
14. Syringing				√
15. Instillation of eye drops/ointment		√		
16. Irrigation of conjunctiva	√			
17. Applying an eye patching				√
18. Epilation of cilia				√
19. Eversion of upper eye lid	√			
20. Use of lid retractors to examine the eye of a child			√	

21. Digital tonometry	√			
22. Removal of foreign body				√
23. Entropion surgery				√
24. Cataract surgery				√
25. Glaucoma surgery				√
26. Keratoplasmy				√
<b>27. Chalazion/stye*</b>				√
<b>28. Tarsorrhaphy</b>			√	
<b>29. Phoria tropia/BSV, Preliminary knowledge of cranial nerves II,III,IV, VI.</b>	√			
<b>30. Assessment of Opacity in the media</b>	√			

## TEACHING AND LEARNING METHOD

By interactive sessions  
Group discussions  
Objective structures clinical examination  
1st and 2<sup>nd</sup> station of common skills  
Self assignments  
Case records  
Problem based exercises with examples  
Learning resource material  
Text books  
Journals  
CDs  
Videos

## TEXT BOOKS OF OPHTHALMOLOGY

Parsons' Diseases of the Eye , 20<sup>th</sup> Ed. Revised by Dr. Ramanjit Sihota and Radhika Tandon, Published by Butterworth – Heinemann, Elsevier.

Text of Ophthalmology by Khurana, 4<sup>th</sup> Ed 2007 published by New Age International P. Ltd.

Clinical Ophthalmology by Kansaki, 5<sup>th</sup> Ed published by Elsevier.

Systemic Ophthalmology by Kansaki.

**Text book of Ophthalmology by Prof. H.V. Nema, 4<sup>th</sup>/5<sup>th</sup> Editions, Jaypee brothers.**

## **CLINICAL TEACHING DURING POSTING**

**Clinical posting in batches during 4<sup>th</sup> to 7<sup>th</sup> semester – 60 sessions of 3 hrs each (180 hrs). Theory lectures, Tutorials, Group discussion, integrated teaching, seminars, Starting from 4<sup>th</sup> to 7<sup>th</sup> semester – approx 100 lectures of 1 hr each ( 100 hrs)**

### **Suggested topics for integrated teaching modules:**

- HIV/AIDS
- Endocrine disorders - Diabetes mellitus - thyroid
- Anaemias
- Hypertension
- Congenital anomalies.
- Death and dying
- Molecular biology
- Immunology and organ transplant
- Hospital waste infection
- Cancer therapy
- Headache
- Poisoning
- Collagen disorders
- Association of skin diseases with eye diseases
- Local toxicity of systemic medication
- Nutritional disorders
- Pituitary tumors
- National programmes
- Common neurological diseases
- Tuberculosis and leprosy
- Coma

### **Topics for E - modules:**

Fundus changes in systemic, metabolic, neurological and optic nerve diseases  
Surgical techniques.

## **INTERNSHIP TRAINING**

The purpose of internship training is to facilitate the intern to practice the acquired skills independently or under supervision, as mentioned in the respective discipline course contents. The focus of internship training should be to develop the methods and modalities for actual practice of medical and health

care. Emphasis should be laid on 'Hands on experience'. The settings of internship should be preferably a decentralized setting in a public health organization structure like Community Health Center, District Hospital. At the end of the internship, the intern should be a confident, competent, articulate health care provider in diverse setting.

### **OBJECTIVES OF INTERNSHIP TRAINING:**

At the end of internship, the intern should be able to PERFORM the following:

1. Diagnose clinically common disease conditions encountered in practice and make timely decision for referral to a higher level of health care.
2. Manage all types of common emergencies- medical, surgical, obstetric, neonatal and pediatric, by rendering first level care.
3. Demonstrate skills in relation to implementation of various National Health programmes and schemes, oriented to provide comprehensive health care to the individuals, families and community.
4. Develop managerial skills and leadership qualities to function effectively as a leader of the health care team.
5. Render services to chronically sick and disabled (physical or mental) individuals.
- 6. Develop communication and counseling skills including inrelation to organ donations/blood donations, how to break news to relative req. untreatable disease, cancer deaths etc.**
7. Develop professionalism including ethical behavior, etiquettes and demonstrate behavioral and psychosocial aspects of medical care.
8. Practice rational therapeutics and appreciate the basics of health economics in day to day practice.
9. Make appropriate use of laboratory, radiological and other diagnostic tools.
10. Provide basic and advance life support in emergencies.
11. Observe proper waste management ethics.

### **TIME DISTRIBUTION FOR INTERNSHIP TRAINING**

The total duration of internship will be for 52 weeks, inclusive of foundation course for internship training. Attempt should be made to organize a well structured interactive programme with inputs from concerned specialties. An

example of one such orientation programme is enclosed. However the institutes may make suitable modifications and develop their own programme.

### **Subject Duration Subject Duration COMPULSARY**

Community Medicine 12 weeks Orthopedics 2 weeks

Medicine 6 weeks Ear, Nose & Throat 2 weeks

Surgery 6 weeks Anesthesia 2 weeks

Obstetrics & Gynecology 6 weeks Psychiatry 2 weeks

Pediatrics 4 weeks Dermatology 2 weeks

Ophthalmology 2 weeks Causality including medico-legal 4 weeks

### **ELECTIVE**

Radiology, Tuberculosis & Respiratory Medicine, Physical Medicine and Rehabilitation, Laboratory Medicine 2 weeks

### **ASSESSMENT OF INTERNSHIP**

Attempt should be made to conduct a comprehensive assessment of knowledge, skills and attitude, during and at the end of internship training. For this purpose, structured tools such as 'Log books', 'Checklist', 'Observation schedule', 'Peer review forms' etc. can be effectively utilized to objectively document the performance. Each concerned department should formulate objectives and develop its own tools assessment protocol of internship training. If any intern is unable to qualify in any of the discipline, he/she should repeat the same duration of posting, till satisfactory completion is certified in that discipline. After successful completion of internship, the Dean / Principal /Head of the Institution shall issue "certificate of satisfactory internship completion".

### **\*Proposed changes sended by various medical colleges:**

- **Page No. 1, Item No. 1, – Angular conjunctivitis**
- **Page No. 2 under heading course content, item No.11 and 12.**
- **Page No. 2, under heading course contents item No. 2**
- **Page No. 2, under heading course contents item No.6,7**
- **Page No. 3 under heading examination skill, item No. 8 and page No.4, item No. 27.**
- **Page No. 3, Item No. 18, 20, 25 , 26, 27, 28 and 29.**



- **Page No. 4, Item No. 28, Tarsorrhaphy.**
- **Page No.4, under the head examination skill, item No. 13.**
- **Page No. 5, item No. 28, 29**
- **Page No.5, Text book of ophthalmology by Prof. H.V.Nema.**
- **Page No.7, Item no. 6 under the head objectives of internshsip training.**