

SARDAR PATEL UNIVERSITY

Third Year B.Sc Optometry

Sr. No	Subject	Code	Duration of Uni. Exam	External Marks	Internal Marks	Total
1	Binocular Vision & Orthoptics	BOPT – 301	3	80	20	100
2	Binocular Vision & Orthoptics (P)	BOPT - 301(P)	-	80	20	100
3	Major Eye Disease & Sys. Disease	BOPT – 302	3	80	20	100
4	Major Eye Disease & Sys. Disease (P)	BOPT – 302(P)	-	40	10	50
5	Contact Lens I & II	BOPT – 303	3	80	20	100
6	Contact Lens I & II (P)	BOPT – 303(P)	-	40	10	50
7	Paediatric Optometry, Gen.Optometry	BOPT – 304	3	80	20	100
8	Occupational & Community Optometry	BOPT – 305	3	80	20	100
	Grand Total					700

(42)

THIRD YEAR BACHELOR OF OPTOMETRY (B.OPTOM.)
SUB: BINOCULAR VISION & ORTHOPTICS

BINOCULAR VISION

Scope and Objective

A sound theoretical knowledge of the binocular vision paves the way for clear understanding of the physiology of the eye in the clinics. The theories of binocular vision and basic of Orthoptics included in the theory, forms the background for the student to understand binocular vision and ocular motility disorders.

Text and reference Books

- i. Comprehensive review of Orthoptics and ocular motility- theory, therapy, surgery - 2nd edition, Jane Hurt, Antonia Rasicovia, Charles Windsor-C.V.Mosby & Co.
- ii. Binocular Vision and ocular Motility - Gunter K von Noorden, 2nd edition, C.V.Mosby & Co.
- iii. Handbook of Orthoptic principles - G.T. Willonghby Cashell, Isobel Durran, Churchill Living stone.
- iv. Binocular Vision - Foundations & Application - R. W. Reading
- ii. Strabismus - Forth Edition - Julio Prieto Diaz-Butterworth Henemann
- iii. Pediatric Ophthalmology and Strabismus - Kenneth W. Wright
- iv. Clinical Management of Binocular Vision, Heterophoric accommodation and eye movement disorder - M. Scheiman & Bruce Wick
- v. Management of Strabismus - Elizabeth

1. Binocular Vision - Introduction

- Eye as a sensory motor unit
- Ocular movement: nature and control

2. Binocular Vision and Space perception

- Fusion, diplopia and laws of sensory correspondence
- Retinal rivalry
- Objective (Physical) & Subjective (Visual) space
- Distribution of corresponding retinal elements
- Physiological diplopia
- Panum's area of single binocular vision
- Fixation disparity
- Stereopsis
- Monocular (Non stereoscopic) clues to spatial orientation

- Experimental determination of longitudinal Horopter and criteria of retinal correspondence
- Egocentric (absolute) Localization
- Theories of binocular vision
- Advantages of binocular vision

3. Grades of binocular vision - SMP, Fusion & Stereopsis
4. Development of binocular vision
5. Neural aspects of binocular vision
6. Anatomy of extra ocular muscles
7. Physiology of ocular Movements
 - Basic kinematics
 - Fundamental Laws of Ocular Motility
 1. Donders' and Listing's Law
 2. Sherrington's Law of reciprocal innervation
 3. Hering's Law of equal innervation

Unijocular And Binocular Movements and their characteristics

- Saccadic & Pursuits
- Version & Vergence
- Fixation & Field of Fixation

8. Visual acuity, Geometrical Optical Effects of Spectacles and Aniseikonia
9. Near Vision Complex

- Accommodation
 1. Definition & Mechanism
 2. Method of Measurement
 3. Stimulus & Innervation
 4. Types of Accommodation
 5. Anomalies of Accommodation - Etiology & Management
- Convergence
 1. Definition & Mechanism
 2. Method of Measurement
 3. Types & Components - Tonic, Accommodative, Fusional, Proximal
 4. Anomalies of Convergence & Divergence - Etiology & Management
- AC/A ratio
 - o Method of measurement
 - o Anomalies and Management
- Pupillary Constriction
 1. Relation to Accommodation & Convergence
 2. Physiologic Significance

ORTHOPTICS

- Neuromuscular Anomalies of eyes- Definition, Classification, Etiology and Symptoms

- Development of squint or ocular deviation
- Adaptation to development of ocular deviation: Sensory and motor
- Orthoptic instruments and their uses
- Methods of examination in Neuromuscular Anomalies
 - a. History
 - b. Assessment of Visual Acuity in children
 - c. Refraction
 - d. Sensory and Motor signs
- Anomalous Retinal Correspondence (ARC)
 - a. Definition & Mechanism
 - b. Investigations
 - c. Neurophysiologic basis and clinical development
 - d. Management
- Suppression
 - a. Definition & Mechanism
 - b. Investigations
 - c. Clinical features
 - d. Management
- Amblyopia and eccentric fixation
 - a. Definition & Classification
 - b. Investigations
 - c. Clinical features
 - d. Pathogenesis and pathophysiology
 - e. Management

- Esodeviation
 - a. Esophoria and Intermittent Esotropia
 - b. Accommodative esotropia
 - c. Partially accommodative esotropia
 - d. Non accommodative esotropia
 - e. Microtropia
 - f. Recurrent esotropia
 - g. Secondary esotropia
 - h. Management of esodeviation
 - i. esotropia associated with vertical deviation

- Exodeviation
 - a. Classification and etiology
 - b. Primary exodeviation
 - c. Dissociated exodeviation
 - d. Secondary exodeviation
 - e. Management of exodeviation
- Cyclo - Vertical Deviation
 - a. Comitant hyper deviation
 - b. Dissociated vertical deviation
 - c. Dissociated horizontal deviation
 - d. Elevation in adduction
 - e. Depression in adduction
 - f. Cyclodeviation
 - g. Management
- A and V patterns
- Paralytic Strabismus
 - a. Diagnosis and clinical characteristics
 - b. Paralysis of individual EOM
 - c. Skew deviation
 - d. Double elevator paralysis
 - e. Double depressor paralysis
 - f. Supranuclear and Internuclear paralysis
 - g. Management
- Special Forms of Strabismus
 - a. Retraction syndrome (Duane syndrome)
 - b. Brown syndrome
 - c. Adherence syndrome
 - d. Strabismus fixus
 - e. Strabismus in high myopes
 - f. Fibrosis of extra ocular muscles
 - g. Graves' Endocrine ophthalmopathy
 - h. Acute orbital myositis
 - i. Cyclic heterotropia
 - j. Acquired motor fusion deficiency
 - k. Fracture of orbital floor
 - l. Fracture of medial orbital floor
 - m. Ocular Myasthenia gravis
 - n. Chronic progressive external ophthalmoplegia (Ocular myopathy of Von Graefe)
- Nystagmus
 - a. Classification
 - b. Clinical characteristic
 - c. Treatment

- Principle of non surgical treatment
 - a. Optical treatment
 - b. Pharmacological treatment
 - c. Orthoptics
- Chemodenervation of Extraocular muscles - Botulinum Toxin
- Principle of Surgical Treatment
- An introduction to vision therapy program

THIRD YEAR BACHELOR OF OPTOMETRY (B.OPTOM.)
SUB : CONTACT LENS I & II

CONTACT LENS

Scope and Object:

The subject covers all basic aspects of Contact Lenses. With a revision of Ocular Anatomy & Physiology, Visual Optics, the course will also deal with Optics of Contact Lenses, raw materials and pre-fitting examination.

Text and reference Books:

1. Contact lenses – The CLAO guide to basic science and clinical practice
2. IACLE Modules
3. Contact Lenses Practice – Robert B. Mandell
4. RGP Lens fitting, Carolyn Begley, Butterworth Heinemann.
5. Contact Lenses – Stone J. and Phillips A.J., 3rd edition, Butterworth's, 1989.

LECTURE TOPICS contact lens I

1. History of contact lenses
2. Related anatomy and physiology
3. Related Visual Optics
4. Contact lens materials, terminology, classification & properties
5. Optics of contact lenses, comparison spectacles
6. Indications and contraindications
7. Advantages and disadvantages of contact lenses
8. Manufacturing of Rigid and soft Contact Lenses – Various methods
9. Pre fitting examination-steps, significance, recording of results
10. Instruments used for examination
11. Special investigation in pre-fitting examinations.
12. Keratometry and corneal topography
13. Slit lamp examination
14. Discussion with patient, choice of lens type
15. Fitting philosophies of contact lenses- general outline
16. Fitting rigid contact lens

17. Using trial lenses – calculations involved

18. Methods of assessment of contact lens fit

19. Types of fit – Steep, Flat, Optimum – on spherical cornea

20. Types of fit – Steep, Flat, Optimum – on Toric cornea with spherical lens

21. Types of fit – Steep, Flat, Optimum – on Toric cornea with toric lens

22. Calculation and finalizing of contact lens parameters

23. Ordering rigid contact lenses – writing a prescription to the laboratory

24. Checking and verifying contact lenses from laboratory

25. Modifications possible with rigid lenses

26. Components of lens care systems for rigid lenses

27. Contact lens solutions – composition, necessity, advantages

28. Teaching the patient to insert and remove rigid lenses

29. Common handling instructions to first time wearers

30. Special instructions to the patient wearing rigid gas permeable contact lenses

31. Complications of RGP lens wear

32. Contact lens deposits

Contact lens 2

1. Soft contact lens – raw materials, classification, terminology & properties

2. Manufacturing soft contact lenses – various methods advantages and disadvantages.

3. Various designs of soft contact lenses – advantages and disadvantages

4. Pre – fitting examination – steps, significance, recording of result

5. Special points for in pre – fitting examination of soft contact lenses

6. Discussion with patient, choice of lens type

7. Fitting philosophies of contact lenses – general outline

8. Fitting soft contact lenses – methods – first fit method

9. Fitting soft contact lenses – methods – Trial set method

10. Using trial lenses – calculations involved

11. Methods of assessment of soft contact lens fit

12. Types of fit – Steep, Flat, Optimum – on spherical cornea

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13. Types of fit – Steep, Flat, Optimum – on toric cornea with spherical lenses
 14. Types of fit – Steep, Flat, Optimum – on toric cornea with toric lenses
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15. Calculation and finalizing of soft contact lens parameters
 16. Ordering soft contact lenses – writing a prescription to laboratory
 17. Fitting soft lenses from stock – advantages, limitations, precautions
 18. Checking and verifying soft contact lenses
 19. Components of lens care systems for soft contact lenses
 20. Contact lens solutions – composition, necessity, advantages
 21. Teaching the patient to insert and remove soft contact lenses
 22. Common handling instructions to first time wearers
 23. Special instructions to the patient for using soft contact lenses
 24. Special soft contact lenses – Cosmetics, Disposable, Toric etc.
 25. Special rigid lenses and designs – Toric, Keratoconus, etc.
 26. Special considerations for fitting contact lenses – Children, irregular cornea, Unilateral Aphakia, Sports, One eyed patients, Post RK, Post PRK.
 27. Ortho – Keratology & Corneal refractive therapy (CRT)
 28. Fitting bifocals and multifocal – RGP & Soft lenses
 29. After care and follow-up for all contact lens patients
 30. Patient problems – identification, differential diagnosis and management
 31. Complications of RGP lens wear
 32. Contact lens deposits
 33. Scleral lenses
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34. Prosthetic & Therapeutic lenses
 35. Silicon hydrogels
 36. Business aspects of contact lens practice
 37. Practice management of contact lens
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THIRD YEAR BACHELOR OF OPTOMETRY (B.OPTOM.)
SUB : MAJOR EYE DISEASES & SYSTEMIC DISEASES

Scope and Objective:

To learn in detail, the etiology, differential diagnosis and management aspects of major eye diseases which are main causes of blindness in India? The scope of the course should cover how an Optometrist can play a vital role in diagnosis and management of such diseases when he is working as part of a medical team or even in private clinic. Points about urgent, emergency and routine referral of patients diagnosed to have such diseases should be understood by the student.

Text and reference Books:

1. Manual of Ocular fundus examination - The Dorion-Butterworth Heinemann
2. Cataract - William Douthwaite, Butterworth Heinemann.
3. The Glaucoma handbook -Anthony Litwak, Butterworth Heinemann.

NEURO-OPHTHALMOLOGY

- Neuro-ophthalmic examination
- History
- Visual function test
- Technique of pupillary examination
- Ocular motility
- Checklist for testing
- Visual sensory system
- The retina
- The optic disc
- The optic nerve
- The optic chiasma
- The optic tracts
- The lateral geniculate body
- The optic radiations
- The visual cortex
- The visual field
- The blood supply of the anterior and posterior visual systems.
- Disorders of visual system
- Ocular motor system
- Supranuclear control of eye movements
- Saccadic system
- Clinical disorders of the saccadic system

- Gaze palsies
- Progressive supranuclear palsies, Parkinson's disease Ocular motor ataxia, ocular oscillation
- Smooth pursuit system disorders
- Vengence system
- Cerebellar system
- Non -visual reflex system
- Position maintenance system
- Nystagmus
- Ocular motor nerves and medial longitudinal fascicles
- The facial nerve
- Pain and sensation from the eye
- Autonomic nervous system
- Selected systemic disorders with neuro-ophthalmologic signs

REFRACTIVE SURGERIES

LASERS

LATEST DEVELOPMENT IN EYE CARE

SYSTEMIC DISEASES AND THE EYE

Scope and Object:

The course aims at acquainting the students with certain common medical ailments which have serious ocular involvement. Basic fact about the pathophysiology of the disease, the clinical features, essentials of diagnosis and basic management will be emphasized with the the special reference to the eye.

Text and reference Books:

- I. Davidson's principles and practice of medicine - J.Macleod C.Edwards & lan Boozier, ed. John Macleod, 14th edi. ELBS/Churchill Livingstone (PPM)
- II. Pathologic Basis of Disease - Robbins, Cottran & Kumar, Igaku-Shoin/Saunders.
- III. Parson's Diseases of the eye - Stephan J.H.miller, 17 edition, Churchill Livingstone
- IV. Clinical Ophthalmology - Jack Kanski (JJK) 1st edi. , Butterworths
- V. Essential Immunology - Ivan M. Roitt: 6th edi., ELBS/Blackwell Scientific Publications
- VI. Parasitology - K.D.Chattergy, 12th edi., (paga no.107-238), Chattergy
- VII. Medical handbook of common clinical emergencies-Publishers Ariga, Gowda, Sundar, 2nd edi., Affiliated East-West Press (P) Ltd.

ARTERIAL HYPERTENSION

Pathophysiology, classification, clinical examination, diagnosis, complications and management
Hypertension and the eye

DIABETES MELLITUS

Pathology, classification, clinical features, diagnosis, complications and management. Diabetes mellitus and the eye.

ACQUIRED HEART DISEASE-EMBOLISM

Rheumatic fever-Pathophysiology, classification, diagnosis, complications and Embolism
Subacute bacterial endocarditis

CANCER-INTRODUCTION

Definitions, nomenclature, characteristics of benign and malignant neoplasm.
Grading of staging of cancer, diagnosis principles of treatment.
Neoplasm of the eye.

CONNECTIVE TISSUE DISEASE

Anatomy and Pathophysiology: Arthritis
Eye and connective tissue disease.

THYROID DISEASE

Anatomy and physiology of thyroid gland, Classification of thyroid disease.
Diagnosis, complications, clinical features, management, thyroid disease and the eye.

TUBERCULOSIS

Aetiology, pathology, clinical feature, pulmonary tuberculosis, diagnosis, complications, treatment
Tuberculosis and the eye

HELMINTHIASIS

Classification of helminthic diseases, schistosomiasis, principles of diagnosis and management.

Helminthic disease and the eye (Taenia, echinococcus, larvae migraines)

COMMON TROPICAL AILMENTS (Malaria, leprosy etc.)

Introduction to tropical diseases; Malaria.

Tropical diseases and the eye - leprosy, toxoplasmosis, syphilis, trachoma.

MALNUTRITION

Aetiology, protein energy malnutrition, water electrolytes, minerals, vitamins, nutritional disorders and the eye.

INTRODUCTION TO IMMUNOLOGY

Introduction, components of the immune system, principle of immunity in health, Immunology in disease, Immunology and the eye.

NEUROLOGICAL DISORDERS

Eye & Stroke/CVA

Eye & Disseminated sclerosis and subacute combined degeneration

Anatomy and patho-physiology

GENERAL MEDICAL EMERGENCIES-FIRST AID

Ocular first aid, Ocular emergencies

GENETICS

Introduction to genetics

Organization of the cell

Chromosome structure and cell division

Gene structure and basic principles of genetics

Genetic disorders and their diagnosis.

Genes and the eye

Genetic counseling and engineering.

THIRD YEAR BACHELOR OF OPTOMETRY (B.OPTOM.)
SUB: PEDIATRIC OPTOMETRY & GERIATRIC OPTOMETRY &
LOW VISION AIDS

PEDIATRIC OPTOMETRY

Scope and Objective:

The scope of this subject is to train the optometrist to develop a systemic way of dealing with children below 12, so as to implement primary eye care and have better, specialized management of anomalies.

Text and reference Books:

1. Pediatric Optometry - JEROME Rosner, Butterworth, London 1982
2. Binocular Vision and Ocular Motility - VON NOORDEN G K Burian Von Noorden's 2nd Ed., C.V. Mosby Co. St. Louis, 1980;
3. Assessing children's vision - Susan Leat-Butterworth Heinemann
4. Clinical Pediatric Optometry - Leonard Press, Bruce Moore -Butterworth Heinemann

TOPICS

1. History- Genetic factors, Prenatal factors, Postnatal factors
2. Normal prenatal development & Embryology
3. Anomalies of prenatal & postnatal development
4. Genetic origin- Albinism, Nystagmus, Buphthalmos, Macula disorders, Color Deficiencies, Retinitis pigmentosa, Ectopia Lentis.
5. Acquired - Micro corneal, Macro cornea, Microphthalmos, Ptosis, Distichiasis, Coloboma, Cataract, Aniridia, Pupil displacement
6. Normal postnatal development
7. Visual Acuity testing in children- objective & subjective
8. Normal appearance, pathology and structural anomalies of - Orbit, Eyelid, Lacrimal system, Conjunctiva, Cornea, Sclera, Anterior chamber, Uveal tract, Pupil, Lens, Vitreous, Fundus.
9. Oculomotor system

10. Measurement of the refractive system

11. Determining binocular status, tests for Strabismus, Heterophoria, Amblyopia, Fixation Disorders, ARC & Fusional and accommodative anomalies.

12. Determination of sensory motor adaptability.

13. Compensatory treatment and remedial therapy for - Myopia, Pseudomyopia, Hypermetropia, Astigmatism, Anisometropia, Amblyopia, Nystagmus, Vergences and accommodation.

14. Visual aids for children CL & LVA

GERIATRIC OPTOMETRY

Scope and Objective:

The Optometric examination and management of senior citizens requires different approach. The purpose of this course is to provide comprehensive instruction, which will guide the students to take appropriate Visual Care of the elderly.

Text and reference Books:

1. Vision of the Aging Patient - HISCH M J & WICK R E (An Optometric Symposium). 1960
2. Vision and Aging - A.J.ROSSENBLOOM Jr. & M.W.MORGAN, Butterworth Heinemann, 1993

TOPICS

1. Ageing & Functional Perspective of Ageing
2. Structural changes of the eye
3. Pathological Changes of the Eye
4. Physiological changes of the eye
5. Nutrition in Ageing
6. Optical and refractive changes of the eye
7. Aphakia, pseudophakia - its correction
8. Ocular diseases common in the old eye, with special reference to cataract, glaucoma, macular disorders, vascular diseases of the eye
9. Special considerations in the ophthalmic dispensing to the elderly.
10. Management of visual problems of aging.
11. How to carry on one's visual task overcoming the problems of aging.
12. Ocular Implication of Systemic Disease in elderly

LOW VISION AIDS

Scope and Objective:

Patients both young and old, who suffer from irreversible and incurable conditions which cannot be managed by conventional therapy, can be helped to perform their tasks with Low Vision Aids, prescribing of which is a Special of Optometrists.

Text and reference Books:

1. *Essentials of low vision practice* - Richard L. Brilliant, Butterworth Heinemann
2. Practice of Low Vision a Guide Book - E. Vaithilingam
3. Low Vision Care - EDWIN B. MEHR & ALLAN N. FREID the Professional Press, Chicago, 1975.
4. Optometric Management of Visual Handicap - HELEN FARRALL, Blackwell Scientific Publication, London, 1991.
5. Art and practice of Low Vision- Second Edition - Butterworth Heinemann

TOPICS:

1. Definition & Classification of Low Vision
2. Epidemiology of Low Vision
3. Psychosocial implications of visual impairment
4. Low vision examination
5. Specialize testing in low vision
6. Scanning laser ophthalmoscope
7. Common disorders encountered in low vision
8. Magnification associated with low vision systems
9. Low vision distance systems I: Spectacles and contact lenses
10. Low vision Distance systems II: Telescopes and telemicroscopes
11. Low vision near systems I: Microscopes and magnifiers
12. Low vision near systems II: Electronic magnification system
13. Rehabilitation of peripheral field defects
14. Non optical and accessory devices
15. Computer assistive technology for low vision patient
16. Driving with low vision, Legal Aspects of Low Vision in India
17. Low vision Special populations I: The multiply impaired patient
18. Low vision for special populations I: stroke patient
19. Practice management
20. Recent advances in Low Vision Aids
21. The vision relation rehabilitation network
22. Case studies

LOW VISION PRACTICAL WORK

1. Visual acuity and refraction
 2. Measurement and recording of visual acuity with help of various charts
 3. Experiments with normal distance
 4. Determination of contrast sensitivity in subnormal vision
 5. Determination of need of magnification
 6. Application of low vision devices
 7. Magnifiers
 8. Magnification by Approach
 9. Shape magnification
 10. Large print books
 11. Problems of magnification
 12. Making a test to determine the need of magnification
 13. Magnification with computers
 14. Practical exercises with Galilean telemicroscope (including mounting)
 15. Daily living skills
 16. Orientation and mobility
 17. Visit in a vocational training center
 18. Braille, Orientation and Mobility can only receive a short talk just enough to be introductory. We need not be drawn into the details of Rehabilitation
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THIRD YEAR BACHELOR OF OPTOMETRY (B.OPTOM.)

SUB : APPLIED OPTOMETRY (OCCUPATIONAL OPTOMETRY & COMMUNITY OPTOMETRY)

Text and reference Books:

- Environmental Vision - Donald G. Pitts & Robert N. Kleinstein
- Sports Vision - Donald F. C. Loran & Caroline J. MacEwen
- The Eye and Sports Medicine Manual/International Academy of Sports Vision
- American Optometry Association Sports Vision Guide Book #1-4
- Australian Optometry Association Sports Vision Manual 1 & 2
- Illinois College of Optometry Sports Vision Manual
- International Academy of Sports Vision-Sports Vision Manual
- Law in Optometric Practice - Steve Taylor

OCCUPATIONAL OPTOMETRY

1. Introduction to occupational health, hygiene and safety. International Bodies like ILO, WHO, national bodies like Labor institutes, National Institute of occupational health, National Safety Council, etc.
2. Acts and Rules, Factories Act, and Rules, Workmen's compensation Act, ESI Act.
3. Occupational diseases/occupational related diseases caused by-physical agents, chemical agents and biological agents.
4. Occupational hygiene, environmental monitoring. Recognition, evaluation, control of hazards. Illumination - definition, measurements, standards.
5. Occupational safety. Causes of accidents, Vision, Lighting, color and their role. Accident analysis, Accident prevention
6. Ocular and visual problems of occupation. Electromagnetic radiation Ionizing, Non-ionizing - infrared, Ultra violet, Microwave, LASER
7. Injuries- mechanical, chemical Toxicology-metals, chemicals
8. Personal protective equipment General, Goggles, face shields etc. Selection and use Testing for standards Standards Visual standards for jobs.
9. Problems of special occupational groups.
10. Visits to: Regional Labour Institute selected industries
11. Visual display units (terminals) VDU/VDT.
12. Contact lens and work
13. Occupational dermatoses, hat stress.
14. Role of optometrist - promotion of general and visual health and safety of people at work

PUBLIC HEALTH AND COMMUNITY OPTOMETRY

PHILOSOPHY OF PUBLIC HEALTH

- History of public health
- History of public health optometry (including epidemiology, man power, projections, community reimbursement mechanisms)

HEALTH CARE SYSTEMS

- Organizations of health services (principles of primary, secondary and tertiary care) Health Care Delivery systems in India and determinants of health.
- Detriments of health care delivery system
- Planning of health services (including relevant legislation and implication to optometric practice).
- Health economics
- Health manpower protection and in the practice of ophthalmology
- Third party involvement in financing health care service (including both governmental and non governmental programs)
- Quality assurance.

MODES OF HEALTH AND VISION CARE DELIVERY

- Solo and group practice modes
- Multidisciplinary and institutional practice modes
- Optometry's role as a care primary care professional
- Global medicine and evolution of Public Health in India
- Public Health optometry: concepts and implementation
- Levels of prevention-optometrist's role in community
- Concepts of National Health Programs
- General principles of Epidemiology and methods
- Screening in populations
- Epidemiology of blindness- cataract, Glaucoma deficiency disorders
- Scope of geriatric ophthalmology in preventive and rehabilitation care
- Ocular manifestation in systematic disorders
- Natural history of diseases (Comm.) Transmission of disease
- Basics in research methodology in populations
- Demography and vital statistics
- National and International Agencies in Health Care
- Training and Instructional services-ULV (students Exercise)

LAW AND OPTOMETRY

1. Legal environment and techniques - history law and equity.
2. History and theory of licensure
3. Licensure as a means of internal and external discipline-unprofessional conduct- incompetence-gross immorality
4. International Optometry- important foreign optometry law.
5. The optometrist in court.

6. Malpractice-theory of liability-damages-minimizing malpractice claims.
7. Insurance
8. Negligence.
9. Ethics-professional ethics
10. Laws governing practice of medical profession and paramedical profession in India.
11. Registered medical practitioner-laws against practice of medicine of those unregistered.- Medical council of India-Dental council of India-Nursing council.
12. Present rules and regulations-Laws regarding optical products manufacturers- dispensing in India.
13. Opticians- Are they registered? Dispensing Opticians-Rules in U.K.

VISUAL REHABILITATION:

- i. Introduction to Optometric Rehabilitation
 - i. History of Rehabilitation Optometry
 - ii. Definition and Principles of Rehabilitation
 - iii. Psychology in Optometric Rehabilitation
 1. Pain and Suffering
 2. Adaptation and Compensatory Adjustment
 3. Human Motivation
 4. Psychological Disturbance and Psychotherapy
 - iv. Symptomatology of Visual Disorders
 1. Poor Balance
 2. Visual Hallucinations
 3. Poor Depth Perception
 4. Poor Tracking Ability
 5. Poor Visual memory
 6. Poor Hand -Eye co-ordination
 7. Others
 - v. Therapeutic Approach to Optometry Rehabilitation
 1. Visual Therapy-training
 2. Orthoptics
 3. Peripheral Nerve Regeneration
 4. Central Nervous System and Cognitive Remediation
 5. The physiologic/ Aspects and Clinical Application of Functional Electrical Stimulation in Rehabilitation
 6. Counseling

VISION TRAINING AND SPORTS VISION :

- I. Principles of Vision Training
- II. Introduction to Sports Vision
 - History of Sports Vision
 - Definitions of Terms
- I. Vision and Sports
 - Vision Performance and Athletics

- IV. Equipment List
- V. Sports Terminologies
- VI. Sports Vision Examinations
 - Visual Acuity
 - High Contrast
 - Refraction
 - Color Vision
 - Stereopsis
 - Dominant Eye/ Hand
 - Eye Health
 - Cover Test
 - Ocular Motility
 - Visual Field
 - Night Vision
 - Glare Sensitivity
 - Glare Recovery
- VII. Visual Skills Description and Training: Procedures
 - Accommodation - Vergence Facility
 - Distance Fixation Disparity
 - Dynamic Visual Acuity
 - Eye-Hand Co-ordination, Response Speed
 - Eye-Foot Co-ordination, Response Speed
 - Eye-Foot-Body Balance
 - Peripheral Awareness
 - Anticipation Timing
 - Visual Concentration
 - Speed of Recognition

- Visual Concentration
- Speed of Recognition
- Visual Adjustability
- Peripheral Reaction Time

- Visualization
- Speed of Focusing
- Increased Fusional Reserve
- Fixation Ability
- Visual Memory
- Spatial Localization
- Visual Skills in Sports and Development
- Designing Sports Vision Programs
- Sports-related Injuries and First Aid