

REVISED SYLLABUS

For

D.OPT

(Diploma in Optometry)



**Lal Bahadur Shastri Paramedical Skill and
Training Council India**

**लाल बहादुर शास्त्री पराचिकित्सीय कौशल एवं प्रशिक्षण
परिषद भारत**

मुख्य कार्यालय:— 4 वीं मंजिल, प्राइम प्लाजा, इन्दिरा नगर, लखनऊ।

प्रशासनिक कार्यालय:— द्वितीय तल, सुनील कॉम्प्लेक्स, वेस्टर्न कचहरी रोड़, मेरठ।

वेबसाइट—www.lbspstc.com संपर्क सूत्र— 121-4349311

Exam: March and April

(To be implemented from 2024-25 session)

Syllabus of Diploma in Optometry

FIRST YEAR (1st)

S. No.	Subjects	Distribution of Marks			
		TH	PR	Viva-voce	Total
D.Opt -1	Anatomy including Ocular Anatomy	100	-	-	100
D.Opt -2	Physiology & Microbiology	100	-	-	100
D.Opt -3	Optics & Mechanical Optics	100	-	-	100
D.Opt -4	General Principal of Hospital Practice and Patient Care	100	-	-	100
D.Opt P-V	Hospital Training 60 Days before final examination	-	50	50	100
	Total	400	50	50	500

Syllabus of Diploma in Optometry

SECOND YEAR (2nd)

S. No.	Subjects	Distribution of Marks			
		TH	PR	Viva-voce	Total
D. Opt -5	Practice as an Eye Care Professional	100	-	-	100
D. Opt -6	Surgical Assistance	100	-	-	100
D. Opt -7	Community Ophthalmology & Eye Banking	100	-	-	100
D. Opt -8	Squint, Orthoptics & Refraction	100	-	-	100
D. Opt -9	Pharmacology	100	-	-	100
D. Opt P-V	Final Practical and Viva Before Final Examination	-	50	50	100
	Total	500	50	50	600

FIRST YEAR (1ST Year)- D. Optometry

Content

1. Biology and Human Welfare: 2 Lectures

- Infectious diseases: General: Causes, control, immunity and chemotherapy
- Diseases of man: Definition of diseases, different types of pathogens (bacteria, viruses and virus like organisms, fungi, helminths, protozoa, etc.) sources of infection, infection and contagion, economic importance of diseases, methods of prevention and biological control

2. Biology and Human Welfare: 2 Lectures

- Cell structure and function
- Tissues: Epithelial, Muscular, Connective (cartilage and bone) and nervous
- Skeletal system
- Muscular system
- Blood
- Circulatory system
- Digestive system
- Respiratory system
- Nervous system
- Endocrine system
- Urinary system
- Ear
- Skin

3. Anatomy of the Eye and Orbit: 15 Lectures

- Orbit – its relations and vascular communications
- Eyelid and its glands
- Conjunctiva
- Lacrimal apparatus
- Extraocular muscles
- Cornea and Sclera
- Iris, Ciliary body and choroids
- Retina
- Lens and vitreous

- Optic Nerve and Visual pathway
- Cranial nerves III, IV
- Cranial nerves V, VI, VII
- Para Sympathetic and sympathetic nerve in relation to the eye
- Pituitary gland and cavernous sinus
- Embryology of the eye

4. Physiology of the Eye: 17 Lectures

- Vascular circulation of eye
- Aqueous humour
- Intra-ocular pressure
- Vitreous
- Lens
- Retina
- Protective mechanism of eye (2 lectures)
- Physiology of vision (2 lectures)
- Light reflex, accommodation and convergence (2 lectures)
- Physiology of extraocular muscles
- Ocular movements and binocular vision
- Electroretinogram and adaptation
- Visual acuity and testing

5. Ocular Microbiology: 6 Lectures

- Ocular microbiology
- Bacteria
- Viruses
- Fungi
- Protozoa (Parasites)
- Sterilization

6. Optics: 21 Lectures

- Physical Optics:
 - Properties of light
 - Principles of reflection of light
 - Principles of refraction of light
 - Lenses and their combinations

Physiological Optics:

- General concepts of eye as a refracting apparatus
- The corneal and lenticular systems
- Optical resolution of the eye
- Visual angles, visual acuity and visual axes
- Optical aberrations of the eye

Principles of Ophthalmic Procedures

- Darkroom procedures
- Ophthalmoscopy
- Retinoscopy
- Subjective examination
- Errors of Refraction
- Hypermetropia
- Myopia
- Astigmatism
- Refractive surgery
- Anisometropia and aniseikonia
- Accommodation
- Convergence

7. Mechanical Optics and Workshop: 14 Lectures

Mechanical Optics:

- General power, shape and size of lenses
- Transposition of spectacle lenses
- Spherical lenses
- Cylindrical lenses
- Bifocals and multifocal
- Ophthalmic prisms
- Oblique cylinders
- Protective and plastic lenses
- Lens measure: GENEVA
- Focimeter
- Special lenses-miscellaneous lenses and appliances

Workshop:

- Grinding machines

- Grinding materials
- Tools and gauge and their testing

Practical

- Reception and registration and record keeping
- O.P.D. posting
- Vision and refraction
- Minor operative techniques
- Ward posting
- Workshop making and fitting of glasses

CLINICAL AND PRACTICAL - PRELIMINARY

- ◆ Attending OPD i.e. dilatation of pupils, etc.
- ◆ Reception
- ◆ Records
- ◆ Minor Operation Techniques
- ◆ Orthoptic – I
- ◆ Ward Posting
- ◆ Pathology

SECOND YEAR (2nd Year)- D. Optometry

Content

1. Practice as an Eye Care Professional: 66 Lectures

- Initial patient contact and reception and ethics
- Office manner, secretarial assistance, records and their retrieval
- Initial patient contact and reception and ethics
- Office manner, secretarial assistance, records and their retrieval
- Ophthalmic equipment
- Maintenance of ophthalmic equipment
- Examination of the eye
- Special investigations
- Routine ophthalmic investigation
- Conjunctival smear, fluorescein staining and PH testing
- Color vision
- Visual fields
- Syringing and lacrimal function tests
- Refractometer and focimeter usage
- Tension taking
- Keratometry
- Pachometry
- Anaesthesiometry and dark adaptometry
- Exophthalmometry
- A Scan and B Scan

2. Orthoptics, Pleoptics and Muscular Imbalance : 19 Lectures

- Normal Binocular function, Grades of Binocular vision, Simultaneous perception, Fusion and Stereopsis
- Aetiology of strabismus-motor, central and sensory
- Methods of examination of strabismus, History, visual acuity and cover test
 - a) Ocular movements and their testing
 - b) Measurements of angle of squint

- c) Testing of Binocular function
- d) Heterophoria: classification, clinical picture and investigations

- Esophoria: Classification, investigation and therapy
- Exophoria: Classification, investigation and therapy
- Hyperphoria and cyclophoria
- Abnormalities of binocular vision – diplopia, confusion and suppression
- Abnormal retinal correspondence (1) definition, aetiology and classification, investigation and relative importance
- A.C/A ratio : Its importance in congenital squint, methods of testing
- Congenital squint (Accommodative): Aetiopathogenesis, classification and special investigations
- Treatment of accommodative squint; Optical, orthoptic, miotic surgery
- Non-accommodative squint : Classification, investigation and treatment
- Divergent squint (1) Classification and clinical picture
- Divergent squint (2) Investigation and treatment
- Vertical squint : Aetiology, classification, investigation, differential diagnosis of primary and secondary vertical squints
- Alternating circumduction : Aetiology, classification, clinical picture, investigation and management
- Suppression : Detection and treatment
- Amblyopia : Definition, aetiology, development, classification, detection and management with occlusion therapy
- After image : Definition, description usage of after images in
- Haidinger brushes : Therapy, their usage in diagnosis and therapy
- Pleoptic therapy : Cupper's method, Bangerter's method
- Fixation anomalies
- Indications of orthoptic and surgical treatment of strabismus
- Postoperative orthoptic management
- Accommodative anomalies
- Convergence anomalies
- Nystagmus

3. Nutrition and eye diseases:

- Nutritional deficiencies: Vitamins

- Nutritional deficiencies: Proteins, fat, carbohydrates and minerals

4. Industrial Hazards and their Prevention:

- Industrial injuries/accidents and foreign bodies
- U.V. infrared and other radiation injuries, thermal injuries

5. Community Ophthalmology: (Eye Campus)

- Eye screening programmes, school clinics and surveys
- Blind person and his problems, rehabilitation of the blind
- Health education in the field of Eye Care Organization of eye camps
- Eye donation motivation

6. Common Eye Diseases of:

- Eyelids, Orbit, Adnexad, Conjunctiva, Cornea, Sclera, Uvea, Lens, Retina, Glaucoma, Injuries of eye

7. Sterilization and theatre: 6 Lectures

- General Aspects
- Sterilization and disinfections
- Theatre set up
- Principles of sterilization – asepsis and antisepsis
- Eye instruments and operating room equipment
- Surgical scrub and donning sterile linen and gloves

8. Pre- and post-operative procedures: 10 Lectures

- Preoperative preparation
- Post operative care, general considerations
- Surgical preparation and draping

9. Outlines of operative procedures: 10 Lectures

- Lids
- Lacrimal apparatus
- Extraocular muscles
- Cornea
- Lens
- Glaucoma
- Eye banking and anucleation
- Trauma

- ☑ Retina and vitreous
- ☑ Application of lasers

10. Community Ophthalmology: 4 Lectures

- ☑ Functioning of Mobile Eye Health Care Units including Eye Camps and practical participation in the same guidelines for conducting eye camps. Causes of visual impairment and blindness. National Programme for prevention and control of blindness.

11. Ocular Pharmacology: 13 Lectures

- ☑ General aspects of Pharmacology (3 lectures)
- ☑ Anti-microbials (3 lectures)
- ☑ Anti-inflammatory drugs (2lectures)
- ☑ Autonomic drugs and anti-glaucoma agents (2 lectures)
- ☑ Ocular anesthetics
- ☑ Ophthalmic prescriptions

Practical

- ◆ Making and fitting of glasses
- ◆ Refractive errors and their determination
- ◆ Maintenance of ophthalmic equipment
- ◆ Contact Lenses
- ◆ Orthoptic and pleoptics
- ◆ Refractive errors and their determination
- ◆ Theatre – its sterilization and sterilization of ophthalmic and surgical instruments
- ◆ Community ophthalmology and camps
- ◆ Refractive errors and their determination in camps
- ◆ Low visual aids
- ◆ Ocular prosthesis
- ◆ Investigation procedures
- ◆ Optical workshop
- ◆ Refractive errors and their determination
- ◆ Theatre assistance
- ◆ Contact Lense

CLINICAL AND PRACTICAL – FINAL

- ◆ Refraction
- ◆ Lens fitting and workshop
- ◆ Investigation
- ◆ OPD
- ◆ Operation Theatre
- ◆ Wards

Community Ophthalmology and camps:

- ◆ Refractive errors and their determination in hospital and in camps
- ◆ Theatre – Its sterilization and sterilization of Ophthalmic and Surgical instruments in camps
- ◆ Camps – organization and conduction
- ◆ Low visual aids
- ◆ Ocular prosthesis
- ◆ Operation Theatre
- ◆ Salesmanship and optical corner
- ◆ OPD
- ◆ Refractive errors
- ◆ Orthoptic – II
- ◆ Ward
