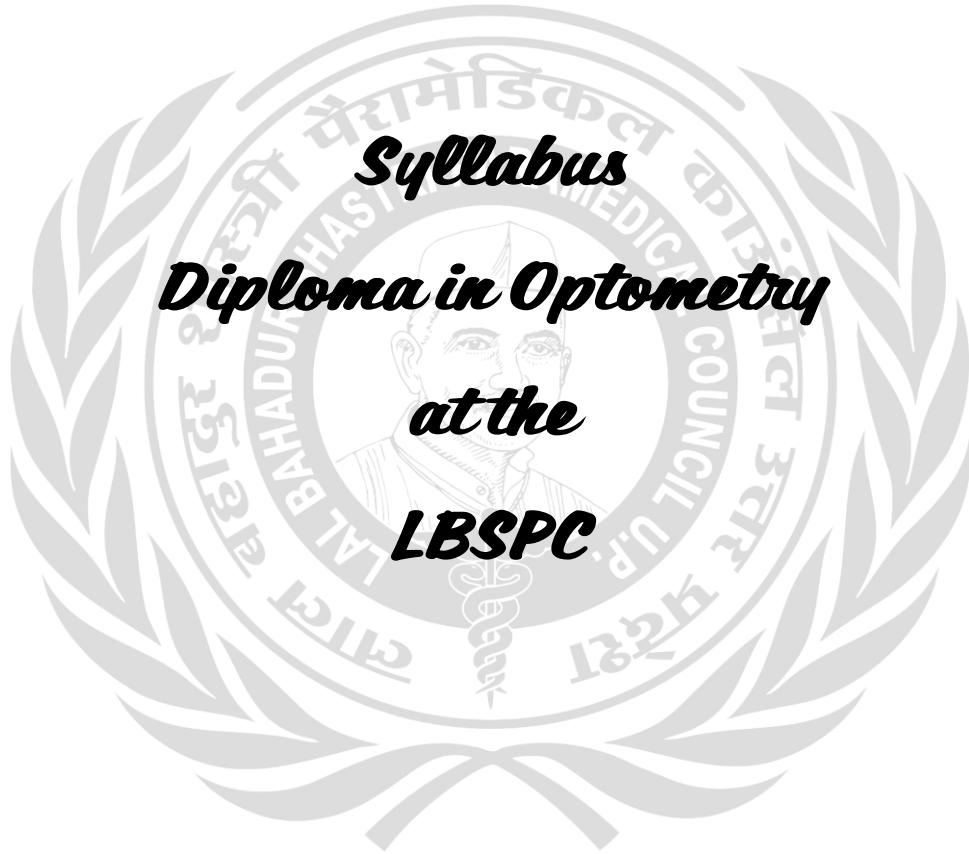




# लाल बहादुर शास्त्री पैरामेडिकल काउंसिल उत्तर प्रदेश

Head Office: 2<sup>nd</sup> Floor Sunil Complex Near RG PG College Meerut



**Exam: June & December**  
(To be implemented from 2023-24 session)

# **LAL BHADUR SHASTRI PARAMEDICAL COUNCIL**

## **DIPLOMA IN OPTOMETRY**

**DURATION: 02 YEARS**

### **SYLLABUS**

#### **FIRST YEAR**

##### **TOPICS**

1. General Anatomy & Physiology
2. Ocular Anatomy
3. Ocular Physiology
4. Physical Optics
5. Prism & Lenses
6. Retinoscopy & Refraction Technique
7. Transposition
8. Refractive Error

#### **SECOND YEAR**

##### **TOPICS**

1. Disease of Eye
2. Diagnostic Instrument
3. Pharmacology, Pathology & Microbiology
4. Mechanical Optics
5. Public Health
6. Community Ophthalmology

**SYLLABUS FOR DIPLOMA IN OPTOMETRY****FIRST YEAR**

Paper	Duration of Study (Hrs.)	Subjects	Duration of Paper	Marks	
Paper I	50	General Anatomy & Physiology	3 Hrs.	15	100
	300	Ocular Anatomy		30	
		Ocular Physiology		30	
		<b>INTERNAL ASSESSMENT</b>		25	

Paper	Duration of Study (Hrs.)	Subjects	Duration of Paper	Marks	
Paper II	250	Physical Optics	3 Hrs.	10	100
		Prism & Lenses		10	
		Retinoscopy & Refraction		15	
		Technique		10	
		Transposition		30	
		Refractive Error		25	
	<b>INTERNAL ASSESSMENT</b>				

**PRACTICAL**

Paper	Duration of Study (Hrs.)	Subjects	Duration of Paper	Marks	
Practical	600	General Anatomy & Physiology	3 Hrs.	15	100
		Ocular Anatomy & Physiology		30	
		Physical & Physiological Optics		30	
	<b>WARD MARKS</b>	25			

**SYLLABUS FOR DIPLOMA IN OPTOMETRY****SECOND YEAR**

Paper	Duration of Study (Hrs.)	Subjects	Duration of Paper	Marks	
Paper I	350	Disease of Eye	3 Hrs.	45	100
		Diagnostic Instrument		20	
		Pharmacology, Pathology & Microbiology		10	
	<b>INTERNAL ASSESSMENT</b>	25			

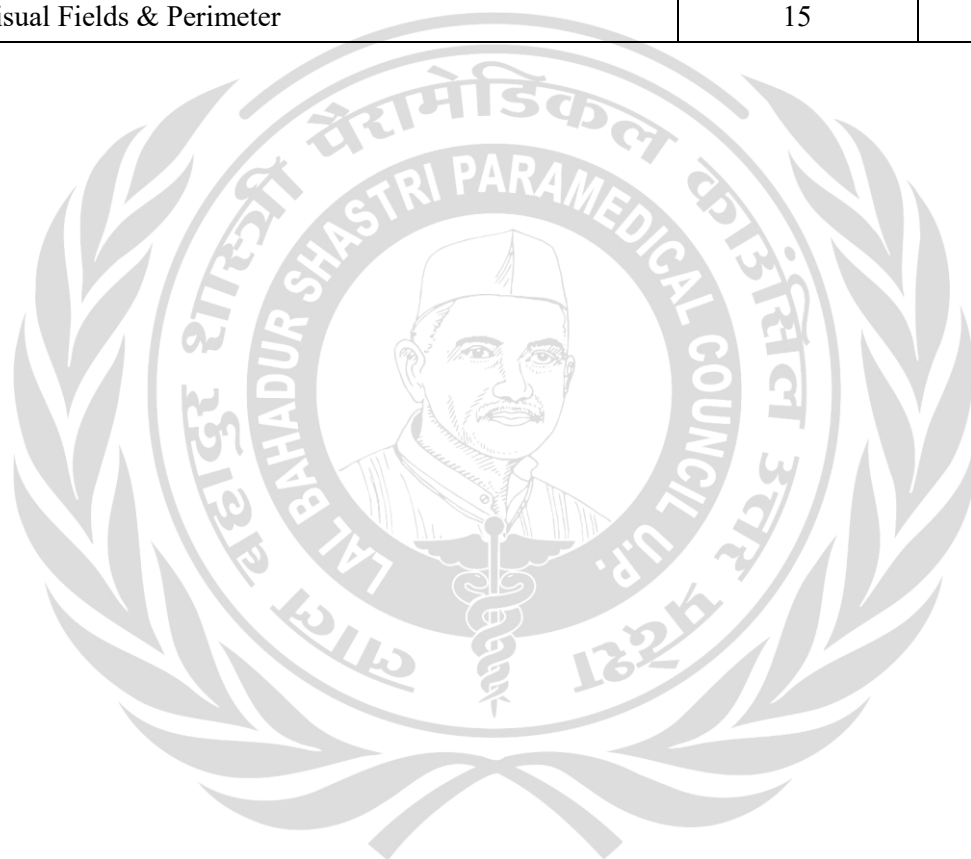
Paper	Duration of Study (Hrs.)	Subjects	Duration of Paper	Marks	
Paper II	250	Mechanical Optics	3 Hrs.	45	100
		Public Health		10	
		Community Ophthalmology		20	
	<b>INTERNAL ASSESSMENT</b>	25			

**PRACTICAL**

Paper	Duration of Study (Hrs.)	Subjects	Duration of Paper	Marks	
Practical	600	Disease of Eye	3 Hrs.	20	100
		Mechanical Optics		20	
		Diagnostic Instrument		15	
		Pharmacology, Pathology & Microbiology		10	
		Community Ophthalmology		10	
	<b>WARD MARKS</b>	25			

Sl.No.	Course Content of First Year (First Paper)	No. of Periods (45 Min.)	No. of Hours
<b><u>GENERAL ANATOMY &amp; PHYSIOLOGY</u></b>			
1.	Introduction to Anatomical Terms	15	50 Hrs.
2.	Organization of Body Cells, Tissue, Organ, Systems	5	
3.	Cardio Vascular System	10	
4.	Respiratory System	10	
5.	Musculo Skeletal System	10	
6.	Digestive System	5	
7.	Excretory System	5	
8.	Endocrine System	5	
9.	Nervous System	10	
10.	Reproductive System	5	
<b><u>OCULAR ANATOMY &amp; PHYSIOLOGY</u></b>			
1.	An Outline of Visual System	10	300 hrs.
2.	Ocular Embryology	30	
3.	Bony Orbit & Adnexa	15	
4.	Extra Ocular Muscles	15	
5.	Coats of Eye Ball	10	
6.	Conjunctiva Structure & Function	12	
7.	Sclera & Episclera	10	
8.	Cornea Structure & Function	20	
9.	Limbus	5	
10.	Uveal Tract	15	
11.	Anterior Chamber & Angle	20	
12.	Pupil	15	
13.	Aqueous Humor	10	
14.	IOP Measurement	10	
15.	Posterior Chamber	5	
16.	Crystalline Lenses	20	
17.	Vitreous	5	
18.	Retina	20	
19.	Vitamin A Cycles.	5	
20.	Visual Pathway	10	
21.	Blood Supply to Eye ball	10	

Sl.No.	Course Content of First Year (First Paper)	No. of Periods (45 Min.)	No. of Hours
22.	Nerves Supply to Eye ball	10	
23.	Cranial Nerves	10	
24.	Eyelids	15	
25.	Lacrimal System: Structure & Function	15	
26.	Tear Film	15	
27.	Near Vision Reflex	5	
28.	Visual Acuity	10	
29.	Stereopsis	10	
30.	Binocular & Color Vision	10	
31.	Visual Fields & Perimeter	15	



Sl.No.	Course Content of First Year (Second Paper)	No. of Periods (45 Min.)	No. of Hours
<b><u>PHYSICAL &amp; PHYSIOLOGICAL OPTICS</u></b>			
1.	Introduction	2	250 Hrs.
2.	Light – Definition & Theory	10	
3.	Properties of Light	10	
4.	Reflection & Refraction	7	
5.	Diffraction & Dispersion	10	
6.	Transmission & Absorption	6	
7.	Geometrical Optics	20	
8.	Spherical Lenses	15	
9.	Astigmatic & Toric Lenses	15	
10.	Prism	15	
11.	Vergence of Light	10	
12.	Magnification of Lenses	15	
13.	Homocentric Lenses System Gausse's Theorem	15	
14.	Optical Aberration of images -Spherical Aberration - Chromatic Aberration	15	
15.	Lasers Fundamental	10	
16.	Schematic & Reduced Eye Angle Alpha	5	
17.	Visual Acuity	12	
18.	VA-Testing	12	
19.	Retinocopy	20	
20.	Cycloplegic Drugs & Mydriatics	8	
21.	Subjective Refraction	10	
22.	Simple & Toxic Transposition	10	
23.	Spherical Equivalent	5	
24.	Accommodation & Convergence	7	
<b>25.</b>	<b><u>Refractive Error</u></b>	<b>60</b>	
	Myopia		
	Hypermetropia		
	Astigmatism		
	Aphakia		
	Prebyopia		
<b>26.</b>	<b>Computer Programming</b>	10	

Sl.No	Course Content of Second Year (First Paper )	No. of Periods (45 Min.)	No. of Hours
-------	---	-----------------------------	-----------------

Sl.No	Course Content of Second Year (First Paper )	No. of Periods (45 Min.)	No. of Hours
<b>(A)</b>	<b><u>General Introduction For Disease Of Eye</u></b>	<b>1</b>	<b>350 Hrs</b>
1.	Eyelids:- Congenital Anomalies, Blepharospasm, Ectropion, Entropion,	20	
2.	Ptosis/ Eyelids Tumor	5	
3.	Conjunctiva : Inflammation, Degeneration	15	
4.	Cornea : Keratitis, Keratoconus, Keratoplasty, Refractive Surgery.	15	
5.	Sclera	6	
6.	Vitreous	5	
7.	Lens: Cataract, Other anomalies, Cataract Surgery.	30 30	
8.	Uveal Tract: Iridocyclitis, Other anomalies	15	
9.	Primary Glaucoma, Secondary Glaucoma Glaucoma Surgery	30 20	
10.	Retina: RD, RP, Retina Surgery	15 10	
11.	Optic Nerve : Optic Neuritis, Papilloedema, Optic Atrophy	15	
12.	Injuries To Eye: Burns	15	
13.	Lacrimal System : Dacryocystitis	15	
14.	Amblyopia	8	
15.	Color Blindness	5	
16.	Vitamin A Deficiency	7	
17.	Dry Eyes	7	
<b>(B)</b>	<b><u>Diagnostic Instruments General Information</u></b>	<b>1</b>	
1.	Refractrometer	15	
2.	Lensometer	5	
3.	Lens Gauge or Geneva Lens	5	
4.	Keratometer	5	
5.	Ophthalmoscope	15	
6.	Slit Lamp	10	
7.	Corneal Loupe	5	
8.	Operating Microscope	5	
9.	USG Ophthalmology	5	
10.	Perimeter	5	



Sl.No	Course Content of Second Year (First Paper )	No. of Periods (45 Min.)	No. of Hours
11.	Tonometer	5	
12.	Gonioscope	5	
13.	3 Mirror Fundus lens.	5	
14.	Hruby Lens	5	
15.	Placido's Disc	5	
16.	Pachymeter	5	
17.	Reflective Unit	5	
18.	Exophthalmometer	5	
19.	ERG, EOG, VER	5	
<b>(C)</b>	<b><u>Pathology &amp; Microbiology Teratology</u></b>	<b>1</b>	
1.	Inflammation, Infection & Transmission	5	
2.	Immunity	5	
3.	Microorganism, Pathogenic & Nonpathogenic Organism Affecting Eye	5	
4.	Degeneration & Repair	5	
<b>(D)</b>	<b><u>Pharmacology General</u></b>	<b>1</b>	
1.	Routes of Drug Administration	5	
2.	Pharmacokinetics & Pharmacodynamics	5	
3.	Classification of Drugs	5	
4.	Drugs used in Ophthalmology	5	
5.	Tear Substitutes	5	
6.	Local Anaesthetics	5	
7.	Dyes Used as Diagnostic Drugs	5	

Sl.No	Course Content of Second Year (Second Paper )	No. of Periods (45 Min.)	No. of Hours
<b>(A)</b>	<b><u>Mechanical Optics</u></b>		<b>250 Hrs</b>
1.	A Brief History of Ophthalmic Lenses, Spectacles	4	
2.	Terms Used in Lens Workshop	5	
3.	Ophthalmic Lens Material	20	
4.	Lens Standard	10	
5.	Ophthalmic Lens Blank Manufacture- Glass & Plastic	15	
6.	Ophthalmic Prescription Lens Making	15	
7.	Lens Defects	5	
8.	Ophthalmic Lens Designs	15	
9.	Types of Ophthalmic Lenses : Aspheric, High Index, Multifocal, Bifocal & Trifocal Lenses, Photo Chromatic Lenses, Polaroid Lenses, Tinted Lenses, Protective Lenses.	30	
10.	Spectacles Frames: History, Nomenclature & Terminology, Classification.	15	
11.	Types of Frame Material	15	
12.	Types of Human Faces, Choice of Frames	10	
13.	Cosmetic & Functional Dispensing of Spectacles	10	
14.	Measurement for Ordering Spectacles : IPD, VD	10	
15.	Special Measurement for Fitting Special Types of Lenses	10	
16.	Fitting of Lenses in Various Types of frames	10	
17.	Spectacles Intolerance	10	
18.	Special types of Spectacles	20	
19.	Dispensing of Prisms, Prismatic effect of lens	20	
20.	Contact Lenses	20	
21.	Low Vision Aids	10	
22.	Magnification by Lenses	20	
<b>(B)</b>	<b><u>Public Health &amp; Community Ophthalmology</u></b>		
1.	Introduction	2	
2.	National Programme for Control of Blindness	5	
3.	National Immunization Programme	10	
4.	Blindness : Causes and its Prevention	15	
<b>(C)</b>	<b><u>Computer Programming</u></b>	<b>3</b>	

### TEXT BOOK RECOMMENDED

1.	Ophthalmology : A.K. Khurana, Comprehensive Ophthalmology
2.	Modern Ophthalmology: L.C. Dutta
3.	Recent Advances in Ophthalmology : H.V. Nema, Nitin Nema
4.	Basic Ophthalmology : Renu Jogi
5.	Essentials of Ophthalmology : Samar K. Basak, Dr. V.K. Dadda
6.	Parsons Disease of the Eye: Ramanjit Sihata, Radhika Tandon
7.	Duke-Elder's Practice of Refraction : David Abrams
8.	Anatomy of the Eye and Its Adnexa : H.V. Nema, V.P. Singh
9.	Strabismus Simplified : Pradeep Sharma
10.	Adler's Physiology of the Eye: William M.Hart
11.	The Retinoscopy Book : Johan Mcerboy
12.	Hand Book of General Anatomy : B.D. Chaurasia
13.	Essential of Medical Pharmacology : K.D. Tripathi
14.	Clinical Procedures for Ocular Examination : Daniel Kurtz and Nancy B. Carlson
15.	Optometry A-Z, 1e : Nathan Efron
16.	Eye Examination and Refraction (MODERN OPTOMETRY) : Robert Fletcher and D.Still
17.	The Wills Eye Manual: Office and Emergency Room Diagnosis and Treatment of EyeDisease (Rhee, The Wills Eye Manual): Justis P. Ehlers, Chirag P. Shah, Gregory L. Fenton and Eliza N. Hoskins
18.	Optometry Practice Start Up Business Plan : Bplanxchange
19.	The Complete Optometric Assistant: Sarah Morgan
20.	System for Ophthalmic Dispensing : Clifford W. Brooks OD and Irvin Borish

