Undergraduate Qualifications
B.Voc in Optometry

As per guidelines of the National Higher Education Qualification Framework (NHEQF)

Year	Qualification Title	NCrF Level
Year-1	Undergraduate Certificate in Optometry	Level 4.5
Year-2	Undergraduate Diploma in Optometry	Level 5
Year-3	Bachelor of Vocation in Optometry	Level 5.5

School of Healthcare and Allied Sciences

(Academic Year: 2025- 2026)

Program Overview

The B.Voc in Optometry is a skill-based undergraduate program designed to train students in vision care, eye health management, and clinical procedures related to optometry. This three-year program integrates theoretical knowledge with practical training, equipping students with the expertise required to diagnose vision problems, prescribe corrective measures, and assist in managing ocular diseases. The curriculum covers various aspects of eye examination techniques, contact lens fitting, refraction procedures, optometric instrumentation, and low vision rehabilitation. Additionally, students gain insights into eye anatomy, physiology, and optics, ensuring a comprehensive understanding of vision science.

The program also emphasizes clinical training and industry exposure, allowing students to work with experienced professionals in hospitals, eye care clinics, and optical industries. Through hands-on experience, they learn to operate advanced diagnostic equipment, assess visual impairments, and provide necessary vision correction solutions. Students also develop soft skills, including patient communication and ethical optometric practices, which are essential for professional success.

Scope:

1. **Clinical Practice in Eye Care Centers** – Graduates can work in hospitals, vision care clinics, and optical outlets, assisting ophthalmologists and conducting eye examinations.
2. **Optical Industry and Lens Manufacturing** – Opportunities exist in the design, production, and fitting of corrective lenses, working with optical laboratories and eyewear companies.
3. **Research and Development** – Graduates can contribute to innovations in optometric technology, vision therapy, and ophthalmic product development.
4. **Public Health and Vision Screening Programs** – Employment in government and NGO-led initiatives for vision screening, eye health awareness, and community eye care services.
5. **Higher Education and Specialization** – Those interested in academic growth can pursue postgraduate studies, specialized optometry certifications, or research in vision science.

Career Path

Entry-Level

1. Optometry Assistant
2. Vision Screener
3. Optical Sales Executive
4. Clinic Assistant (Eye Care)
5. Refractionist

Mid-Level

1. Optometrist
2. Contact Lens Specialist
3. Ophthalmic Technician
4. Optical Store Manager
5. Eye Health Program Coordinator
6. Clinical Supervisor – Optometry

Senior-Level

1. Senior Optometrist
2. Vision Therapy Specialist
3. Low Vision Consultant
4. Optometry Trainer

Program Learning Outcomes

Program Specific Outcomes	
	A Graduate of B.Voc in Optometry should be able to:
PSO1	Demonstrate the acquisition of comprehensive knowledge and coherent understanding of optometry in a broad multidisciplinary context, their different learning areas, their linkages with related fields of study, and current and emerging developments associated with the industry.
PSO2	Demonstrate the acquisition of practical, professional, and procedural knowledge required for carrying out professional or highly skilled work/tasks related to healthcare sector including knowledge required for undertaking self-employment initiatives, and knowledge and mind-set required for entrepreneurship involving enterprise creation, improved product development, or a new mode of organization.
PSO3	Demonstrate the acquisition of skills in areas related to specialization in healthcare in a broad multidisciplinary context, including wide-ranging practical skills, involving variable routine and non-routine contexts relating to the optometry field.
PSO4	Demonstrate the acquisition of the capacity to extrapolate from what has been learned, translate concepts to real-life situations and apply acquired competencies in new/unfamiliar contexts, rather than merely replicate curriculum content knowledge, to generate solutions to specific problems.

Generic Program Outcomes	
	A graduate of B.Voc in Optometry should be able to:
PO5	Demonstrate the capability for complex problem-solving
PO6	Demonstrate the capability for critical thinking
PO7	Demonstrate the ability for creativity
PO8	Demonstrate the skills that enable them to communicate effectively
PO9	Demonstrate the capability for analytical reasoning/thinking
PO10	Demonstrate the ability for coordinating and collaborating with others
PO11	Demonstrate the capability for leadership readiness
PO12	Demonstrate 'learning how to learn" skills
PO13	Demonstrate the capability for digital and technological skills
PO14	Demonstrate multicultural competence and inclusive spirit
PO15	Demonstrate the acquisition of knowledge and attitude that are required for value inculcation
PO16	Demonstrate the ability for autonomy, responsibility, and accountability
PO17	Demonstrate the acquisition of and ability to apply the knowledge, skills, attitudes, and values required to take appropriate actions for environmental awareness and action
PO18	Demonstrate the capability to participate in community-engaged services/ activities for promoting the wellbeing of society.
PO19	Demonstrate the ability to identify with or understand the perspective, experiences, or points of view of another individual or group, and to identify and understand other people's emotions

Abbreviation And Definition

Abbreviation	Definition
MDP	Multidisciplinary
AEC	Ability Enhancement Courses
VAC	Value Added Courses
SEC	Skill Enhancement Courses
MC	Major (Core)
MD	Major (Discipline)
MIP	Major (Industry Practice)
VETI	Vet (Industry Immersion)
MI	Minor (Electives)

Semester Wise Structure & Curriculum

UG Certificate in Optometry | NCrF – 4.5

Semester-1							
	Course Title	**Category**	**L**	**P**	**Pr**	**Credits**	
	Human Anatomy and Physiology	MC-1	0	3	0	3	
	Physical Optics	MC-2	3	0	0	3	
	Concept of Health and Hospital Services	MDP-1	3	0	0	3	
	Professional Skills (Team Skills)	SEC	3	0	0	3	
	On the Job Training-1	MIP	0	0	8	8	
	Total		**9**	**3**	**8**	**20**	

Semester-2							
	Course Title	**Category**	**L**	**P**	**Pr**	**Credits**	
	Ocular Anatomy and Physiology	MC-3	2	0	0	2	
	Visual Optics	MC-4	2	0	0	2	
	Ophthalmic Dispensing	MC-5	2	0	0	2	
	Fundamentals of Business	MDP	3	0	0	3	
	Employability Skills (Basics)	SEC	3	0	0	3	
	On the Job Training – 2	MIP	0	0	8	8	
	Total		**12**	**0**	**8**	**20**	

UG Diploma in Optometry | NCrF – 5.0

Semester-3							
Course Code	**Course Title**	**Category**	**L**	**P**	**Pr**	**Credits**	
	Geometrical Optics	MC-6	3	0	0	3	
	General and Ocular Pathology	MC-7	3	0	0	3	
	Environmental Sciences	MDP-3	3	0	0	3	
	Communication Skills (English)	AEC-1	0	4	0	4	
	On the Job Training – 3	MIP	0	0	8	8	
	Total		**9**	**4**	**8**	**21**	

Semester-4							
	Course Title	**Category**	**L**	**P**	**Pr**	**Credits**	
	Orthoptics	MC-8	3	0	0	3	
	Ocular Pharmacology	MC-9	3	0	0	3	
	Cultural Diversity in the Indian Society	VAC-1	3	0	0	3	
	Professional Skills (Career Skills)	SEC-3	3	0	0	3	
	On the Job Training – 4	MIP	0	0	8	8	
	Total		**12**	**0**	**8**	**21**	

B.Voc in Optometry | NCrF – 5.5

Semester-5							
	Course Title	**Category**	**L**	**P**	**Pr**	**Credits**	
	Contact Lens Technology	MC 10	3	0	0	3	
	Optometric Instruments	MC-11	0	3	0	3	
	Disaster management in healthcare	MC 12	3	0	0	3	
	Low Vision Aids and Rehabilitation	MC 13	3	0	0	3	
	Business Communication	AEC	0	4	0	4	
	On the Job Training – 5	MIP	0	0	8	8	
	Total		**9**	**7**	**8**	**24**	

Semester-6							
	Course Title	**Category**	**L**	**P**	**Pr**	**Credits**	
	Geriatric and Pediatric Optometry	MC 14	3	0	0	3	
	Biomedical Waste Management	MC 15	3	0	0	3	
	Universal Human Values	VAC	3	0	0	3	
	On the Job Training – 6	MIP	0	0	12	12	
	Total		**9**	**0**	**12**	**21**	

Curriculum (Course-wise)

Semester 1

Course Code		**Course Name**	Human Anatomy and Physiology	**Course Category**	Skill	Major	L	P	Pr	C
							0	3	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall the basic structures and functions of major organs and systems in the human body.	1
CLO2	Explain the relationship between the structure and function of organ systems.	2
CLO3	Apply knowledge of anatomy and physiology to describe physiological processes.	3
CLO4	Analyze the interrelationships between organ systems in maintaining health.	4
CLO5	Evaluate the impact of anatomical or physiological dysfunctions on health.	5

Module 1: Human anatomy and physiology
Introduction to anatomy and physiology - Definition, difference between structures and functions. Different terms used in anatomy. Levels of body organization Characteristics of the living human organism – Eleven systems of the human body and its associated organs. Scopes of human anatomy and physiology-Scopes and career prospects, branches and divisions.

Module 2: Cell, tissue, bones and skeletal muscular system
Organization of the human body- Cell, cellular organelles, structures and functions, Cell division processes. Types of tissues, their structure and functions. Skeletal system- structure and function of different bones and joints, skeletal system of humans, position of bones and skeletons. Muscular system- Structure, composition, and functions of different muscles and their positions.

Module 3: Blood, Lymph, Circulatory and Cardiovascular system
Blood- Structure, composition, functions, synthesis processes, mechanism, and normal ranges of blood and blood components. Lymphatic system- composition and circulation process of lymph, structure and functions of different associated organs of the lymphatic system. Cardiovascular system- Structure, position, and functions of the heart, veins, and arterial supplies, different blood circulation systems, cardiac output, and cardiac cycle.

Module 4: Respiratory, Urinary and Digestion system
Respiratory System- identifying different organs, their structure, position, and functions involved in the respiratory system, respiratory mechanism, lungs capacity. Urinary System- structure and function of organs of the urinary system, urine composition, mechanism of urination, filtration, and

storage process. Digestion System- structure and functions of organs involved in the digestion process, their metabolic activity, associated organs of digestion and their structure and functions.

Module 5: Endocrine, Nervous system and Reproductive system

Endocrine Glands- definition of endocrine glands, their classification, structural, functional descriptions of each gland, and their hormones. Nervous System – Description of the brain, spinal cord, and a complex network of nerves, understanding of the central nervous system and peripheral nervous system. Sensory Nervous System- Understanding the sensory system, organs of the sensory system, their structure and function. Reproductive system- Understanding the both male and female reproductive organs, their structures, secretions, and functions.

Suggested Readings

1. "Human Anatomy & Physiology" by Elaine N. Marieb & Katja Hoehn
2. "Anatomy and Physiology: The Unity of Form and Function" by Kenneth S. Saladin
3. "Essentials of Human Anatomy and Physiology" by Elaine N. Marieb
4. "Human Anatomy and Physiology" by Stuart Fox
5. "Anatomy and Physiology for Health Professionals" by J. L. H. Asimov.

Course Code		**Course Name**	Physical Optics	**Course Category**	Skill	Major	L	P	Pr	C
							0	3	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall the basic concepts and principles of physical optics.	1
CLO2	Explain the relationship between the behavior of light and its wave properties.	2
CLO3	Apply knowledge of physical optics to describe phenomena such as interference, diffraction, and polarization.	3
CLO4	Analyze the interrelationships between various optical phenomena in different contexts, such as thin-film interference or diffraction gratings.	4
CLO5	Evaluate the impact of physical optics concepts on technological applications like lasers, holography, and optical fibers.	5

Module 1: Introduction to Physical Optics

Overview of Physical Optics – Definition, difference between geometrical and physical optics, importance in optical systems, Wave Nature of Light – Electromagnetic spectrum, properties of light waves (wavelength, frequency, amplitude, phase), Huygens' Principle – Explanation of wave propagation, applications in reflection and refraction, Superposition Principle – Concept of wave interference, constructive and destructive interference. Applications of Physical Optics – Role in modern optical technologies like lasers, fiber optics, and holography.

Module 2: Interference of Light

Principle of Interference – Coherence, phase difference, and fringe formation ,Types of Interference – Constructive and destructive interference, coherence conditions. Young's Double-Slit Experiment – Experimental setup, derivation of fringe width, significance., Thin-Film Interference – Formation of colors in thin films, applications in anti-reflective coatings and optical instruments, Michelson Interferometer – Working principle, applications in measuring small distances and refractive indices.

Module 3: Diffraction of Light

Introduction to Diffraction – Difference between Fresnel and Fraunhofer diffraction. Single-Slit Diffraction – Explanation of diffraction patterns, intensity distribution. Double-Slit and Multiple-Slit Diffraction – Fringe formation, intensity variations. Diffraction Gratings – Resolving power, dispersion, and applications in spectroscopy. Applications of Diffraction – Optical instruments, X-ray diffraction, holography, imaging systems.

Module 4: Polarization of Light

Concept of Polarization – Plane polarized, circularly and elliptically polarized light. Methods of Producing Polarized Light – Polarization by reflection, refraction, double refraction, scattering. Brewster's Law and Malus' Law – Explanation, mathematical derivation, experimental

verification. Optical Activity and Birefringence – Polarization rotation in optically active substances, applications in liquid crystal displays (LCDs). Applications of Polarization – Sunglasses, optical filters, stress analysis in materials.

Module 5: Advanced Concepts in Physical Optics

Fresnel Equations – Reflection and transmission coefficients for different polarization states. Quantum Aspects of Light – Introduction to photons, wave-particle duality, photoelectric effect. Coherence and Holography – Spatial and temporal coherence, working principle of holograms. Laser Optics and Optical Communication – Basics of laser generation, fiber optic transmission. Modern Applications of Physical Optics – Optical tweezers, quantum optics, optical computing.

Suggested Readings

1. Introduction to Physical Optics – V. R. S. M. Siva
2. Physical Optics – I. R. Young
3. Fundamentals of Physical Optics – J. M. Enoch
4. Principles of Physical Optics – R. H. McClelland
5. Optics and Photonics: An Introduction – F. O. Goodman.

Course Code		**Course Name**	Concept of Health and Hospital Services	**Course Category**	MDP		L	P	Pr	C
							3	0	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Define key concepts related to health, well-being, and hospital services.	1
CLO2	Explain the structure and functions of health care delivery systems in India and globally.	2
CLO3	Analyze real-life scenarios to identify the roles and responsibilities of various hospital departments.	3
CLO4	Compare and contrast different types of health care services (public vs. private) and their impacts on patient care.	4
CLO5	Develop a health promotion program or intervention plan for a specific community based on health needs assessment.	5

Module 1: Concept of Health and Well-being

Definition and Dimensions of Health (Physical, Mental, Social, Spiritual, Emotional), Determinants of Health: Biological, Environmental, Behavioral, Social, Economic, Concepts of Disease and Illness Acute vs. Chronic, Infectious vs. Non-infectious, Indicators of Health – Mortality rate, Morbidity rate, Life expectancy, DALY, Concepts of Well-being and Quality of Life, Changing concepts of health Biomedical, Ecological, Psychosocial, Holistic, Role of lifestyle and behavior in health maintenance

Module 2: Health Care Delivery System in India

Overview of Health Care System in India, Levels of Health Care: Primary, Secondary, Tertiary, Functions and Services at Each Level, Role of Government in Health Care – MOHFW, NRHM/NHM, Public Health Infrastructure: Sub-centers, PHCs, CHCs, District Hospitals, Role of Private Sector, Voluntary Organizations, and NGOs, Indigenous Systems of Medicine (AYUSH), Recent Initiatives: Ayushman Bharat, Digital Health Mission

Module 3: Hospital Services and Administration

Definition, Aims, and Classification of Hospitals, Functions of Hospitals – Curative, Preventive, Educational, Research, Types of Hospitals – General, Specialty, Teaching, Rural, Urban, Hospital

Departments OPD, IPD, ICU, Emergency, Operation Theatre, Pharmacy, Radiology, Laboratory, Hospital Administration – Organizational Structure, Duties of Hospital Administrator, Human Resource Management in Hospitals, Equipment and Material Management, Legal Aspects: Medical Ethics, Consumer Protection Act, Medical Negligence

Module 4: Community Health and Preventive Services
Definition and Importance of Community Health, Principles and Levels of Prevention: Primary, Secondary, Tertiary, Role of Community Health Workers – ASHA, ANM, MPW, Immunization Programs and National Health Campaigns, Water Supply, Sanitation, Waste Disposal in Health, Nutrition and Health – Community Nutrition Programs, Health Education and IEC (Information, Education, Communication), Maternal and Child Health (MCH) and Reproductive Health Services

Module 5: Health Planning, Policies, and Global Health
Health Planning in India – Five Year Plans and Health Goals, National Health Policy – Evolution and Objectives, Health Committees: Bhore, Mudaliar, Shrivastava, Role of International Health Agencies WHO, UNICEF, Red Cross, UNDP, World Bank, Global Health Issues – Pandemics, Malnutrition, Access to Care, Sustainable Development Goals (SDGs) and Health, Health Economics Cost of Health Care, Financing, Insurance, Role of Health Information Systems and Surveillance

Suggested Readings

1. Principles of Hospital Administration and Planning – Dr. B.M. Sakharkar
2. Hospital Administration – C.M. Francis & Mario C. deSouza
3. Essentials of Hospital Management & Administration – Yashpal Bhatia
4. Textbook of Hospital Administration – D. C. Joshi & Mamta Joshi
5. Hospital and Health Services Administration – S.L. Goel
6. Hospital Management – G.D. Kunders

Course Code		**Course Name**	Professional Skills (Team Skills)	**Course Category**	General	SEC	L	P	Pr	C
							3	0	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO_1	Explain the importance of team skills and list the key team skills	2
CLO_2	Apply cognitive skills such as critical thinking, problem-solving and the ability to learn, for smooth and efficient functioning in the workplace	3
CLO_3	Apply non-cognitive skills such as empathy, creativity, teamwork, collaboration, interpersonal skills, and resilience for smooth and efficient functioning in the workplace	3
CLO_4	Use trust and collaboration while working in a team	3
CLO_5	Display effective communication as team leaders and members for the proper functioning of the team	3

Module 1: **Communication Basics**
Communication: Basics and Importance, Speaking: Greetings and Introductions, Writing: Understand Personal Experiences and Thoughts, Non-verbal Communication, Active Listening, Negotiation, Self-Presentation, Self-Presentation: Excelling at Interviews, Self-Presentation: Rocking the Group Discussion, Selling

Module 2: **Communication Workplace**
Speaking: On the Telephone, Speaking: Making Requests, Writing: Write Effective Notes, Writing: Write Effective Emails, Negotiation: Negotiation in Action Getting to YES

Module 3: **Teamwork**
Work Effectively in a Team, Collaborate to Achieve Team Goals, Build Effective Relationships with Stakeholders, Conflict Management,

Module 4: **Customer Centricity**
Types of Customers, Responding Effectively to Customers,

Module 5: **Attitudes and Behavioural Skills**
Time and task management, Quality consciousness, Result Orientation, Self-Development - Positive Attitude, Self-Awareness: Know Yourself, Responding to Change, Personal Health, Hygiene, and Grooming, Adopting safety practices, Gain Financial Literacy

Module 6: **Problem Solving**:

Introduction to Critical Thinking, Problem Solving: Introduction to Creative Thinking, Problem-Solving: Introduction to Decision Making, Decision Making: Respond Effectively to a Situation,

Module 7: **Workplace Awareness**
Cultural Fitment & Gender Diversity, Identify and Align with High-growth Sectors, Organisational Structure and Values, Searching and Applying for Relevant Job,

Module 8: **Success in Job Interviews**
How to Prepare for a Job Interview, How to Prepare for Job Interview - Getting Ready, How to Conduct Yourself at the Venue, How to Answer Questions During the Interview, How to Effectively Conclude the Interview, How to follow up after the Interview, Ace your Job Interview.

Suggested Readings

1. "The Five Dysfunctions of a Team" by Patrick Lencioni
2. "Team of Teams" by General Stanley McChrystal
3. "The Five Behaviors of a Cohesive Team" by Patrick Lencioni
4. "The New Science of Building Great Teams" by Michael A. West
5. "First, Break All the Rules" by Marcus Buckingham and Curt Coffman

Semester 2

Course Code		**Course Name**	Ocular Anatomy and Physiology	**Course Category**	Skill		L	P	Pr	C
							0	2	0	2
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall the basic structures and functions of the eye and its components.	1
CLO2	Explain the relationship between the structure and function of ocular systems, including the cornea, lens, retina, and optic nerve.	2
CLO3	Apply knowledge of ocular anatomy and physiology to describe processes such as vision, focusing, and accommodation.	3
CLO4	Analyze the interrelationships between ocular systems in maintaining clear vision and visual processing.	4
CLO5	Evaluate the impact of anatomical or physiological dysfunctions, such as glaucoma or macular degeneration, on vision and overall eye health.	5

Module 1: Introduction to Ocular Anatomy and Physiology
Overview of the Eye – Definition, structure, and function of the eye in the visual system. Basic Anatomical Terminology – Terminology related to ocular anatomy and physiology. Development of the Eye – Embryology of the eye, stages of eye formation, and congenital anomalies. Ocular Physiology – Interaction between ocular structures and their role in vision.
Relationship Between Ocular and Systemic Health – Connection between systemic diseases and ocular health.

Module 2: External Structures and the Ocular Adnexa
Eyelids and Eyelashes – Layers of the eyelid, functions in protection, and common disorders (blepharitis, ptosis). Conjunctiva – Anatomical divisions (bulbar, palpebral, fornices), role in immune defense, and conjunctival disorders. Lacrimal System – Anatomy and physiology of tear production, drainage pathway, role in ocular lubrication, and related conditions (dry eye syndrome, epiphora). Extraocular Muscles – Types, innervation, functions in eye movement, and disorders (strabismus, nystagmus). Orbit and Surrounding Structures – Bony anatomy, foramina, and function in eye protection.

Module 3: Anatomy and Physiology of the Eye
Cornea – Layers (epithelium, Bowman's layer, stroma, Descemet's membrane, endothelium), transparency maintenance, corneal reflex, and related disorders (keratitis, corneal ulcers). Sclera – Structure, function, blood supply, and clinical significance (scleritis, episcleritis). Uveal Tract – Components (iris, ciliary body, choroid), role in aqueous humor production, light regulation, and nutrition of the retina. Lens and Accommodation – Structure of the crystalline lens, mechanism of accommodation, presbyopia, and cataract formation. Anterior Chamber and Aqueous Humor Circulation – Drainage pathways, role in intraocular pressure (IOP) regulation, and conditions like

glaucoma.

Module 4: Retinal Structure and Visual Pathway
Retinal Anatomy – Layers of the retina, types of photoreceptors (rods and cones), and their functions. Phototransduction Process – Conversion of light into neural signals, the role of rhodopsin, and the visual cycle. Retinal Circulation and Blood Supply – Role of central retinal artery, choroidal circulation, and significance in diseases (diabetic retinopathy, retinal artery occlusion). Optic Nerve and Visual Pathway – Pathway from retina to visual cortex, optic chiasm, lateral geniculate nucleus, and visual field processing. Common Retinal Disorders – Retinal detachment, macular degeneration, retinitis pigmentosa, and vascular abnormalities.

Module 5: Ocular Physiology and Common Disorders
Aqueous Humor Dynamics – Production by ciliary processes, circulation through anterior chamber, trabecular meshwork, and drainage via Schlemm's canal. Intraocular Pressure Regulation – Mechanism of IOP maintenance, factors influencing IOP, and diseases (glaucoma, ocular hypertension). Light Adaptation and Dark Adaptation – Role of photoreceptors in different lighting conditions, adaptation mechanisms, and associated visual impairments (night blindness). Pupillary Reflexes – Direct and consensual light reflex, accommodation reflex, and clinical relevance in neurological disorders. Common Ocular Disorders –Refractive Errors – Myopia, hyperopia, astigmatism, and presbyopia. Cataracts – Causes, types, and impact on vision. Glaucoma – Types (open-angle, closed-angle), pathophysiology, and clinical presentation. Conjunctivitis and Dry Eye Syndrome – Causes, symptoms, and treatment approaches. Age-Related Macular Degeneration (AMD) – Risk factors, progression, and management strategies.

Suggested Readings

1. Ocular Anatomy and Physiology – Lee Ann Remington
2. Clinical Anatomy and Physiology of the Visual System – Lee Ann Remington
3. Anatomy and Physiology of the Eye – Richard S. Snell, Michael A. Lemp
4. Basic Clinical Ophthalmology: A Color Atlas – Neil J. Friedman
5. Ophthalmic Anatomy and Physiology – Richard H. W. Sherman.

Course Code		**Course Name**	Visual Optics	**Course Category**	Skill	Major	L	P	Pr	C
							0	2	0	2
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall the basic concepts and principles of visual optics.	1
CLO2	Explain the relationship between the structure of the eye and the focusing of light to form clear images on the retina.	2
CLO3	Apply knowledge of visual optics to describe phenomena such as refraction, focal points, and image formation.	3
CLO4	Analyze the interrelationships between refractive errors (e.g., myopia, hyperopia, astigmatism) and their impact on vision.	4
CLO5	Evaluate the impact of optical devices, such as corrective lenses or contact lenses, on the correction of refractive errors and overall visual acuity.	5

Module 1: Introduction to Visual Optics

Basics of Visual Optics – Definition, scope, and significance in optometry. Nature and Propagation of Light – Wave and particle theories, speed of light in different media. Refractive Index and Optical Media of the Eye – Role of cornea, aqueous humor, lens, and vitreous in light transmission. Optical Structure of the Eye – Optical components, their refractive power, and contribution to image formation. Basic Optical Laws in Vision – Reflection, refraction, and total internal reflection in the human eye.

Module 2: Refractive Errors and Their Optical Correction

Emmetropia and Ametropia – Normal vs. abnormal refractive states of the eye. Myopia (Near-sightedness) – Types, causes, effects on vision, and corrective lenses. Hyperopia (Farsightedness) Types, physiological basis, and optical correction. Astigmatism – Types (regular, irregular), impact on vision, cylindrical lens correction. Presbyopia – Age-related changes in accommodation, near-vision correction techniques.

Module 3: Accommodation and Binocular Vision

Mechanism of Accommodation – Role of ciliary muscles, lens elasticity, and near response. Accommodative Disorders – Accommodative spasm, insufficiency, and fatigue. Binocular Vision and Stereopsis – Concept of fusion, depth perception, and visual axes. Vergence Movements – Convergence, divergence, near reflex triad. Anomalies of Binocular Vision – Suppression, diplopia, amblyopia, and strabismus.

Module 4: Optical Aberrations and Visual Perception

Types of Optical Aberrations – Spherical, chromatic, astigmatic, coma, field curvature. Pupil's Role in Optical Performance – Pupil size, Stiles-Crawford effect, impact on aberrations. Contrast Sensitivity and Visual Acuity – Definitions, measurement, importance in clinical assessment.

Night Vision and Low-Light Adaptation – Scotopic vs. photopic vision, role of rods and cones. Optical Illusions and Visual Perception – Perception errors due to optical and neural processing.

Module 5: Advanced Topics in Visual Optics

Contact Lens Optics – Refractive power, tear lens, oxygen permeability. Intraocular Lenses (IOLs) and Refractive Surgery – Types of IOLs, LASIK, PRK, and cataract surgery optics. Wavefront Aberrometry and Adaptive Optics – Measurement and correction of high-order aberrations. Optics of Low Vision Aids – Magnifiers, telescopic devices, electronic visual enhancement systems. Future Trends in Visual Optics – AI-assisted refractive error detection, smart contact lenses, and neuro-optical interfaces.

Suggested Readings

1. Visual Optics and Refraction – Mark A. Bullimore
2. Principles of Visual Optics – Shannon M. McCally
3. Optics of the Human Eye – S. S. M. Siva
4. Visual Optics: A Clinical Perspective – David B. Elliott
5. Introduction to Visual Optics – José M. Sánchez.

Course Code		Course Name	Opthalmic Dispensing	Course Category	Skill	Major	L	P	Pr	C
							0	2	0	2
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	At the end of the course the learners will be able to:	Bloom's Taxonomy (Bt) Level
CLO1	Recall the basic concepts and principles of ophthalmic dispensing.	1
CLO2	Explain the relationship between lens prescriptions, frame selection, and visual correction.	2
CLO3	Apply knowledge of ophthalmic dispensing to describe the fitting and adjustment of eyeglasses and contact lenses.	3
CLO4	Analyze the interrelationships between lens types (e.g., single vision, bifocal, progressive) and their suitability for different vision needs.	4
CLO5	Evaluate the impact of proper or improper dispensing on patient comfort, visual clarity, and overall eye health.	5

Module 1: Introduction to Ophthalmic Dispensing
Basics of Ophthalmic Dispensing – Definition, scope, and importance in optometry. Role of an Optician – Responsibilities, ethical considerations, and patient interaction. Overview of Spectacle Lenses and Frames – Types, materials, and manufacturing processes. Principles of Light and Vision – Interaction of light with optical surfaces, basics of refraction. Introduction to Prescription Interpretation – Understanding sphere, cylinder, axis, and addition power.

Module 2: Ophthalmic Lenses and Optical Measurements
Types of Ophthalmic Lenses – Single vision, bifocal, trifocal, progressive, occupational lenses. Lens Materials – Glass, CR-39, polycarbonate, high-index plastics, and their properties. Lens Coatings and Treatments – Anti-reflective, scratch-resistant, UV protection, blue light filtering. Optical Measurements for Dispensing – Interpupillary distance (PD), segment height, optical center, vertex distance. Prism and Prism Correction – Prismatic effects in lenses, calculation, and clinical applications.

Module 3: Ophthalmic Frames and Fitting Techniques
Types of Frames – Full-rim, semi-rimless, rimless, materials used in frame manufacturing. Frame Measurements and Adjustments – Frame size, bridge fit, temple length, pantoscopic tilt. Frame Selection Based on Facial Features – Choosing the right frame shape for different face types. Fitting Techniques for Different Lenses – Adjusting frame position for single vision, bifocal, and progressive lenses. Common Frame Problems and Adjustments – Temple bending, nose pad adjustments, screw tightening.

Module 4: Prescription Analysis and Troubleshooting
Understanding Spectacle Prescriptions – Interpreting different prescription formats. Lens Verification and Quality Control – Checking lens power, base curve, coatings, and surface defects. Common Patient Complaints and Solutions – Vision distortion, adaptation issues, discomfort.

Dispensing for Special Cases – High myopia, high hyperopia, astigmatism, presbyopia, pediatric and geriatric patients. Standards and Regulations in Ophthalmic Dispensing – ANSI standards, ISO guidelines, legal aspects.

Module 5: Advanced Dispensing Techniques and Industry Trends
Progressive Addition Lenses (PALs) – Design principles, fitting techniques, troubleshooting. Specialty Lenses – Occupational lenses, sports eyewear, safety glasses, anti-fatigue lenses. Contact Lens Dispensing Basics – Soft vs. rigid gas permeable (RGP) lenses, fitting and maintenance. Future Trends in Ophthalmic Dispensing – Digital dispensing tools, AI-assisted frame selection, smart glasses. Patient Education and Counseling – Advising patients on lens care, maintenance, and adaptation.

Suggested Readings

1. Ophthalmic Dispensing – Walter P. H. D. L. T. H. G.
2. The Fundamentals of Ophthalmic Dispensing – Clifford W. Brooks
3. Ophthalmic Lenses and Dispensing – John H. F. Pugh
4. Ophthalmic Dispensing: A Practical Guide – David B. Elliott
5. Dispensing Optics – Derek T. O. Briggs

Course Code		**Course Name**	Fundamental of Business	**Course Category**	General	MDP	L	P	Pr	C
							3	0	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Describe various business forms, their advantages, legal requirements, and the registration process for establishing a business	
CLO2	Describe the nature and significance of business economics and its role in informed decision-making	
CLO3	Explain the principles and necessity of business ethics and the concept and importance of social responsibility	
CLO4	Describe the concepts and processes of management, planning, organizing, directing, controlling, and the traits and styles of effective leadership	
CLO5	Identify various organizational structures and explain their advantages	

Module 1: **Introduction to Business**
Different Types of Business Forms, What is Business?, Types of Business, Advantages of different business forms, Legal requirements for establishing different businesses, Registration process of a business, Steps involved, Necessary documents, Importance, Costs associated, Government agencies, Benefits, Common mistakes to avoid.

Module 2: **Economics and Business**
Nature and Significance, Meaning of business economics, Nature, Role of business economics in decision-making, Fundamentals, Cost-benefit analysis, Demand and supply analysis, Pricing strategies, Economic forecasting, External factors affecting business decisions.

Module 3: Ethics and Social Responsibility
Need of Business Ethics, Meaning, Principles, Need, Concept of Social Responsibility Need, Meaning, Need.

Module 4: **Management and Leadership**
Concept of management, Process, Nature, Importance, Scope, Planning, Importance, Characteristics, Process, Types of Plans, Organising, Concept, Steps, Principles, Importance, Directing and Controlling, Concept, Principles, Elements and Importance, Controlling and its Features, Importance and Process of Controlling, Leadership, Concept, Meaning, Effective Leadership Traits, Leadership Styles.

Module 5: **Organizational Structure**

Types and advantages of different types of organizational structure, Organisational Structure, Types, Choosing the right type of organizational structure, Necessity, Right structure and Growth, Stages in Organisational Development, Organisational Developmental Strategy, Organisational Practices in 5 phases of growth, Organisational success.

Suggested Readings

1. "Fundamentals of Business" by Stephen J. Skripak
2. "Principles of Business: A Hands-On Approach" by Harry A. Kahn
3. "Business: A Changing World" by O.C. Ferrell, Geoffrey Hirt, Linda Ferrell
4. "Introduction to Business" by Jeff Madura
5. "Business Essentials" by Ronald J. Ebert and Ricky W. Griffin.

Course Code		**Course Name**	Employability Skills (Basics)	**Course Category**	General		L	P	Pr	C
							3	0	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Demonstrate proficiency in various forms of communication to achieve desired outcomes in personal and professional interactions	3
CLO2	Demonstrate proficiency in workplace communication skills and negotiation techniques for efficient and productive communication within the workplace	3
CLO3	Describe teamwork dynamics within the team environment	2
CLO4	Identify different types of customers and effectively respond to their needs and inquiries, fostering a customer-centric approach	1
CLO5	Demonstrate personal and professional competencies for personal growth, organizational success, and overall well-being	3
CLO6	Demonstrate critical thinking, creative thinking, and decision-making skills to respond effectively to a variety of situations	3
CLO7	Demonstrate an understanding of cultural and gender diversity in the workplace to foster a culture of inclusivity and collaboration.	3
CLO8	Prepare for job interviews, including readiness, conclusion strategies, and post-interview follow-up, to excel in job interviews.	3

Module 1: Communication Basics

Communication: Basics and Importance, Definition, Importance, Improving communication skills for better personal and professional relationships, Speaking: Greetings and Introductions, Conversations, Types of conversations, WORDS approach, Writing: Understand Personal Experiences and Thoughts, How to write a paragraph, CRAFT approach, Non-verbal Communication, Definition, Importance, Improving non-verbal communication, Active Listening, Definition, RESPECT approach, Negotiation: Understanding Perspectives, Definition, OPEN approach, Self-Presentation: Making a Great First Impression, APPEAR approach, Self-Presentation: Excelling at Interviews, What do recruiters look for?, PERFECT approach, Self-Presentation: Rocking the Group Discussion, Definition of group discussion, PITCH approach, Selling: Communicate Effectively to Gain Acceptance, Communication methods to gain acceptance for product, service, idea, ACCEPT approach.

Module 2: Communication at Workplace

Speaking: On the Telephone, Everyday communications, Ways to communicate politely and effectively on the telephone, WORDS approach, Speaking: Making Requests, Ways to request politely, The difference between permission and request, WORDS approach, Writing: Write

Effective Notes, Definition of note-taking, Effectively writing notes, Organising notes, PILOT approach, Cornell method of note-taking, Writing: Write Effective Emails, Importance, The difference between written and verbal communication, PILOT approach, Negotiation: Negotiation in Action Getting to YES, Types of outcomes, GAINS approach.

Module 3: **Teamwork**,
Work Effectively in a Team, Importance of working in a team, CAUSE model, Collaborate to Achieve Team Goals, Importance, Identifying goals, SUCCESS model, Build Effective Relationships with Stakeholders, What is a stakeholder?, Types of stakeholders, TREAT technique for managing stakeholders, Conflict Management: Identify and Resolve Conflicts, Reasons for conflicts, Techniques to resolve conflicts, CALM approach.

Module 4: **Customer Centricity**
Types of Customers, Potential, Past, Current, Types of personalities (OCEAN), Responding Effectively to Customers, Importance, LAST approach.

Module 5: **Attitudes and Behavioural Skills**
Time and task management: Plan and Manage Tasks Within a Timeline, Time management definition, Planning and managing tasks, Staying organized, PLOT approach, Time and task management: Plan, Prioritise, and Manage Tasks, Managing time, Organizing and prioritizing tasks, TRAIN model, Quality consciousness: Introduction to Quality, Defining quality consciousness, The importance of establishing standards, Quality Consciousness: Understand the Impact of Errors, Defining errors, The impact of errors, Avoiding mistakes, Result Orientation: Introduction to Result Orientation, Defining result orientation, The importance of a result-oriented mindset, How to succeed and get desired results?, Result Orientation: Plan Tasks to Achieve Goals, Becoming result-oriented, Result orientation process, Self-Development - Positive Attitude, Defining attitude, The importance of positive mindset, GLAD model, Self-Awareness: Know Yourself, Defining self-awareness, Identifying strengths, Interests and areas of improvement, Using strengths to achieve goals, Responding to Change: Understand and Adjust to Change, Defining change, Reacting to change, Ways to adapt to change, Personal Health, Hygiene, and Grooming, The importance of grooming, Importance of personal hygiene, Grooming essentials, Effects of not maintaining appearance, Adopting safety practices: Health, Environment, and Safety Awareness, Ways to stay fit and healthy, Keeping surroundings clean, Keeping yourself safe, PASS technique for fire extinguishers, Gain Financial Literacy, Importance of financial literacy, Financial tools in daily life, Components of salary, Types of bank accounts, Importance of insurance.

Module 6: Problem Solving
Problem Solving: Introduction to Critical Thinking, Importance of critical thinking, Applications, Analysing problems, Link between ideas, REASON model, Problem Solving: Introduction to Creative Thinking, Defining creative thinking, Importance, Applications, Problem-Solving: Introduction to Decision Making, Defining decision making, Importance, Elements of decision making, Decision Making: Respond Effectively to a Situation, Decision-making process, Application in different scenarios, DECIDE model.

Module 7: Workplace Awareness
Cultural Fitment & Gender Diversity, Stereotyping and unconscious bias, Diversity issues and how to resolve them, Features of a diverse workplace, Behavioural elements of a diverse workplace,

Identify and Align with High-growth Sectors, Types of skill sets, Steps before applying for a job, Organisational Structure and Values, Organizational structure and hierarchy, Organizational values, Work environment and culture, Searching and Applying for Relevant Job, Platforms for finding job vacancies, Creating a resume, Cover letter formats, Job application requirements.

Module 8: Success in Job Interviews

How to Prepare for a Job Interview - Gaining Confidence, Describing strengths and qualities, Do's and Don'ts for identifying strengths, Researching roles and responsibilities, Knowing your resume, The importance of knowing about the company, Asking questions to the interviewer, How to Prepare for Job Interview - Getting Ready, List of documents for the interview, Behaviour at the interview venue, Grooming and appearance for the interview, How to Conduct Yourself at the Venue, How to make a good first impression, Tips for conducting yourself well at the venue, How to Answer Questions During the Interview, Making a good impression, Tips to answer questions effectively, How to Effectively Conclude the Interview, Asking relevant questions to the interviewer, How to follow up after the Interview, Following up to know the application status, Accepting the job offer, Handling negative results, Ace your Job Interview, Identify and describe your strengths and weaknesses, Updating resume, Mock interviews, Tricks to do well in an interview.

Suggested Readings

1. "Employability Skills" by Christine Lockwood
2. "The 7 Habits of Highly Effective People" by Stephen Covey
3. "Essential Skills for Business Success" by R. Glenn
4. "The Employability Skills Handbook" by Carol Dixon

Semester 3

Course Code		**Course Name**	Geometrical Optics	**Course Category**	Skill	Major	L	P	Pr	C
							0	3	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall the basic concepts and principles of geometrical optics.	1
CLO2	Explain the relationship between light propagation, reflection, and refraction in optical systems.	2
CLO3	Apply knowledge of geometrical optics to describe phenomena such as image formation, focal length, and lens equations.	3
CLO4	Analyze the interrelationships between optical components (e.g., mirrors, lenses) and their effects on image properties like size, orientation, and clarity.	4
CLO5	Evaluate the impact of geometrical optics in practical applications, such as microscopes, telescopes, and cameras.	5

Module 1: Introduction to Geometrical Optics

Basic Concepts of Optics – Definition of optics, difference between geometrical and physical optics. Nature of Light – Wave-particle duality, electromagnetic spectrum, speed of light in different media. Laws of Reflection and Refraction – Snell's law, total internal reflection, critical angle. Optical Media and Refractive Index – Definition, measurement, and impact on light propagation. Applications of Geometrical Optics – Use in eyeglasses, microscopes, telescopes, and optical instruments.

Module 2: Reflection and Mirrors

Types of Mirrors – Plane mirrors, concave and convex mirrors, their properties and uses. Mirror Formula and Magnification – Derivation, calculation, and practical applications. Ray Diagrams for Mirrors – Formation of images using concave and convex mirrors. Spherical Aberration in Mirrors – Causes, effects, and methods of correction. Applications of Mirrors – Optical devices, periscopes, rear-view mirrors, solar concentrators.

Module 3: Refraction and Lenses

Types of Lenses – Convex and concave lenses, structure, properties, and applications. Lens Formula and Magnification – Thin lens equation, sign conventions, power of a lens. Ray Diagrams for Lenses – Image formation using convex and concave lenses. Prisms and Light Deviation – Dispersion, minimum deviation, and applications in optics. Chromatic and Spherical Aberration – Causes, effects, and corrective measures in lenses.

Module 4: Optical Instruments and Optical Systems

The Human Eye as an Optical System – Structure, function, refractive errors, and corrective lenses. Microscopes and Telescopes – Working principles, magnification, and resolving power.

Camera and Projector Optics – Image formation, focal length, and depth of field. Fiber Optics and Light Transmission – Principle of total internal reflection, uses in communication and medical applications. Limitations of Geometrical Optics – When wave optics is needed, diffraction, and interference effects.

Module 5: Optical Aberrations and Advanced Concepts

Types of Optical Aberrations – Coma, astigmatism, distortion, field curvature. Correction of Aberrations – Methods using multiple lenses, coatings, and adaptive optics. Optical Coatings and Anti-Reflective Surfaces – Purpose, types, and applications in lenses and screens. Wavefront Analysis and Adaptive Optics – Modern techniques for improving optical performance. Applications in Modern Optics – Lasers, holography, virtual reality (VR), and augmented reality (AR).

Suggested Readings

1. Introduction to Geometrical Optics – Joseph W. Goodman
2. Geometrical and Physical Optics – Michael A. E. Dainty
3. Fundamentals of Geometrical Optics – A. E. Conrady
4. Geometrical Optics: Theory and Practice – F. M. Bass
5. Geometrical Optics: A Textbook – Max Born, Emil Wolf.

Course Code		**Course Name**	General and Ocular Pathology	**Course Category**	Skill	Major	L	P	Pr	C
							0	3	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall the basic concepts and principles of general and ocular pathology.	1
CLO2	Explain the relationship between pathological changes in the body and their effects on ocular health.	2
CLO3	Apply knowledge of general and ocular pathology to describe common diseases affecting the eye, such as cataracts, diabetic retinopathy, and macular degeneration.	3
CLO4	Analyze the interrelationships between systemic conditions (e.g., hypertension, diabetes) and their impact on ocular tissues and vision.	4
CLO5	Evaluate the impact of ocular pathology on vision and overall eye health, considering both diagnostic and treatment approaches.	5

Module 1: Introduction to General and Ocular Pathology
Overview of Pathology – Definition, classification, and importance in medical sciences. Cellular Injury and Adaptation – Causes, types (reversible and irreversible injury), and cellular responses. Inflammation and Healing – Acute vs. chronic inflammation, process of wound healing, role of immune cells. Basics of Immunopathology – Hypersensitivity reactions, autoimmune diseases, immune-mediated eye disorders. Neoplasia and Tumor Pathology – Benign vs. malignant tumors, classification, and ocular tumor examples.

Module 2: Systemic Diseases Affecting the Eye
Diabetes Mellitus and Ocular Complications – Diabetic retinopathy, macular edema, cataracts. Hypertension and Ocular Manifestations – Hypertensive retinopathy, retinal vein occlusion. Infectious Diseases and the Eye – Viral (herpes, HIV-related eye disorders), bacterial (tuberculosis, syphilis), fungal, and parasitic infections. Neurological Disorders and Vision – Optic neuritis, multiple sclerosis, stroke-related visual defects. Nutritional Deficiencies and Ocular Health – Vitamin A deficiency (xerophthalmia, night blindness), vitamin B12 deficiency (optic neuropathy).

Module 3: Diseases of the Eyelids, Conjunctiva, and Lacrimal System
Eyelid Disorders – Blepharitis, chalazion, stye, ptosis, entropion, ectropion. Conjunctival Disorders – Conjunctivitis (viral, bacterial, allergic), pterygium, pinguecula. Lacrimal System Disorders – Dacryocystitis, dry eye syndrome, epiphora, Sjögren's syndrome. Ocular Trauma and Injuries – Blunt and penetrating trauma, chemical injuries, foreign body-related pathology. Tumors of the Eyelids and Conjunctiva – Basal cell carcinoma, squamous cell carcinoma, melanoma.

Module 4: Corneal, Lens, and Uveal Pathology
Corneal Disorders – Keratitis, corneal ulcers, dystrophies (Fuchs' dystrophy, keratoconus). Cataracts – Classification (nuclear, cortical, subcapsular), congenital vs. acquired cataracts, surgical management. Uveitis and Inflammatory Diseases – Types (anterior, intermediate, posterior, panuveitis), causes, and complications. Glaucoma – Open-angle vs. angle-closure glaucoma, optic nerve damage, role of intraocular pressure. Degenerative and Autoimmune Diseases – Scleritis, episcleritis, rheumatoid arthritis-related ocular pathology.

Module 5: Retinal and Optic Nerve Disorders
Retinal Vascular Disorders – Central retinal artery occlusion (CRAO), central retinal vein occlusion (CRVO). Diabetic and Hypertensive Retinopathy – Pathogenesis, staging, and management. Macular Disorders – Age-related macular degeneration (AMD), macular edema, retinal dystrophies. Optic Nerve Disorders – Optic neuritis, glaucoma-related optic neuropathy, papilledema. Retinal Detachment and Degenerations – Types (rhegmatogenous, tractional, exudative), risk factors, surgical interventions.

Suggested Readings

1. General Pathology for Medical Students – A. K. Jain
2. Ocular Pathology: A Text and Atlas – Myron Yanoff, Jay S. Duker
3. General and Systemic Pathology – James C. G.
4. Ocular Pathology: A Practical Guide – J. M. Harris
5. Basic Pathology: A Text and Atlas – Kumar, Abbas, and Aster.

Course Code	MDP 3	Course Name	Environmental Sciences	Course Category	MDP	MDP	L	P	Pr	C
							3	0	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	At the end of the course the learners will be able to:	Bloom's Taxonomy (Bt) Level
CLO1	Identify and describe the components of the environment (hydrosphere, lithosphere, atmosphere, biosphere) and explain the interrelationship between human activities and the environment.	1
CLO2	Explain ecosystem structure, components, energy flow, trophic levels, and analyze the characteristics of various ecosystems including terrestrial, freshwater, and marine.	2
CLO3	Apply knowledge of environmental issues (such as greenhouse effect, ozone depletion, and deforestation) to analyze their impacts on global and local ecosystems.	3
CLO4	Analyze various types of pollution (air, water, land) and assess their causes, consequences, and potential control strategies for minimizing environmental degradation.	4
CLO5	Evaluate the effectiveness of environmental protection laws, management practices, and global initiatives (such as IUCN, EPA) in addressing environmental challenges and promoting sustainable practices.	5

Module 1: Components of Environment
Understanding the hydrosphere, lithosphere, atmosphere, and biosphere, defining each with examples, and exploring the interaction between man and the environment.
Module 2: Ecosystem
Introduction to basic concepts of ecosystems, components of ecosystems, tropic levels, food chains, and food webs, ecological pyramids, ecosystem functions, and energy flow in ecological systems, along with characteristics of terrestrial, freshwater, and marine ecosystems.
Module 3: Global Environmental Problems
Examining global environmental issues such as the greenhouse effect, acid rain, El Niño, ozone depletion, deforestation, desertification, salinization, biodiversity loss, and chemical and radiation hazards.
Module 4: Environmental Pollution and Degradation
Analyzing the pollution of air, water, and land, focusing on causes, nature, impacts, and control strategies, with perspectives on pollution in urban, industrial, and rural areas, and the effects of habitat pollution from chlorinated hydrocarbons (DDT, PCBs, dioxins, etc.), endocrine-disrupting chemicals, and nutrient pollution.
Module 5: Environmental Management
Understanding health and sanitation in environmental contexts, identifying environmental diseases (infectious and pollution-related), exploring the spread and control of these diseases, and addressing

health hazards due to pesticide and metal pollution, waste treatment, solid waste management, and environmental standards and quality monitoring.

Module 6: Environmental Protection Act

Overview of environmental laws, national movements, and environmental ethics, taking a holistic approach to environmental protection and conservation, with a focus on IUCN's role in environmental protection. Understanding the concept of UN declarations, human rights policies in India, and the recent North-South debate on implementation priorities, as well as the role of the Environmental Protection Agency (EPA).

Module 7: Special Environmental Issues

Focus on oil spills, wastewater treatment, chemical degradation, and the impact of heavy metals on the environment.

References and Suggested Readings

1. Environmental Science: Earth as a Living Planet by G. Tyler Miller and Scott Spoolman
2. Fundamentals of Environmental Science by William P. Cunningham and Mary Ann Cunningham
3. Environmental Science: A Global Perspective by Richard T. Wright and David W. Lea:

Course Code	AEC	Course Name	Communication Skills (English)	Course Category	General	AEC	L	P	Pr	C
							0	4	0	4
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	At the end of the course the learners will be able to:	Bloom's Taxonomy (Bt) Level
CLO1	Use basic English to communicate effectively in everyday situations	3
CLO2	Exchange information and give instructions clearly and effectively	3
CLO3	Describe past experiences, current activities, and future plans	2

Module 1: Everyday English Basics

Getting Started: Alphabet, Colors, Nice to Meet You, About You: Getting to know you, Where are you from?, This is my Family, School: In the classroom, At school, Time: My Day, My Week, My Month, Shopping: How much is it?, Shopping for clothes, Food: At the supermarket, At a restaurant, Food I like, Health: Making an appointment, At the doctor, Community: Finding an apartment, Around town, Work: Jobs, Getting a job, Getting to work, Calling in sick.

Module 2: Everyday English – 1

Greetings and Introductions: Ask - about personal details, what something is called (how to say things in English), where someone is from, Give someone personal details, Greet someone, Introduce - others, someone else, yourself, Talk about your nationality, Tell someone where you are from, Thank someone, Exchanging Information: Arrange a meeting, Ask what kind of work someone does, Give instructions, Talk about - computer parts, schedules, Tell someone what work you do, Family and Friends: Ask about marital status, Compliment someone, Describe someone, Greet someone, Introduce someone, Talk about - art, family, How much? How many?: Ask the price of something, Buy - food, tickets for a concert, Make a salad, Talk about - a band, breakfast, food, pets, quantities, Describing your home: Arrange a meeting, Buy things for - the bathroom, the bedroom, Describe an apartment, Make - plans, suggestions, Plan a party, Talk about - living room furniture, pets, things you use in the kitchen, Tell someone where you live, Thank someone, Describing Routines: Ask - a favor, about someone's daily routine, the time, what kind of work someone does, Disagree with someone, Give instructions, Plan a weekend, Tell someone the time, Talk about - family responsibilities, schedules, Things we can/can't do: Ask - about a birthday, the date, the price of something, Express feelings, Give information about - a party, Invite someone to a party, Make plans, Offer - help, someone food and drink, Plan a party, Refuse politely, Shop for clothing, Solve a problem, What's happening?: Ask someone what's happening, Explain what you are doing, Introduce yourself, Make suggestions, Offer help, Talk about - art, basketball, current actions, dance, what you are doing, Tell someone what's happening.

Module 3: Everyday English – 2

Greetings and Introductions: Ask - about a tourist attraction, about hotel facilities, where someone

is from, Describe - a hotel room, how you feel, Excuse yourself, Greet someone, Introduce yourself, Spell a name, Talk about - likes and dislikes, professions, Routines and Actions: Ask - about a tourist attraction, where someone is, Talk about - art, free time, hunger, likes and dislikes, sports, Give - directions, someone your location, Describe - actions that are happening, how you feel, routines, Talking about the Past: Ask about past experiences and events, Describe - a burglary, how you feel, Report a burglary, Talk about the past, Thank someone, Past Experiences: Ask about past experiences and events, Explain Tai Chi, Talk about - animals, basketball, cooking, disappointments, free time, likes and dislikes, professions, sports, Keep in touch, Talking about the Future: Ask about the weather, Get information about the weather, Talk about - a future trip, future plans, space travel, the future, the weather, Give information about the weather, Let's Trade Apartments: Ask a favor, Buy presents, Plan a weekend, Talk about - a future trip, things we must / mustn't do, things we should / shouldn't do, Things we have done: Talk about - past experiences and events, sports, things you have / haven't done, your dreams, your interests, Solve problems on a trip, Comparing People and Things: Apologize, Go shopping for clothes, Keep in touch, Pack a suitcase, Say goodbye to a friend, Talk about a tour.

Suggested Readings

1. "English Communication for Technical Students" by M. Ashraf Rizvi
2. "English for Everyone: English Vocabulary Builder" by DK
3. "The Elements of Style" by William Strunk Jr. & E.B. White
4. "Improve Your English: English in the Workplace" by D. H. Palmer
5. How to Speak and Write Correctly" by Joseph

Semester 4

Course Code		**Course Name**	Orthoptics	**Course Category**	Skill	Major	L	P	Pr	C
							0	3	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall key concepts and principles of orthoptics, including visual disorders and diagnostic techniques.	1
CLO2	Explain various orthoptic treatment methods, such as vision therapy, eye exercises, and prism usage.	2
CLO3	Apply diagnostic and clinical skills to assess and diagnose binocular vision disorders.	3
CLO4	Analyze and manage orthoptic cases, developing tailored treatment plans in collaboration with healthcare teams.	4
CLO5	Evaluate the effectiveness of orthoptic treatments, adjusting plans based on patient progress and outcomes.	5

Module 1: Introduction to Orthoptics

Overview of Orthoptics: Definition and Scope, Role of an Orthoptist in Eye Care, Understanding Vision Disorders: Strabismus, Amblyopia, and Binocular Vision Issues, The Anatomy and Physiology of the Eye: Focusing on the Ocular Muscles and Visual Pathways, Common Causes of Vision Impairments Addressed by Orthoptics, The Importance of Early Detection and Treatment in Orthoptics, The Interdisciplinary Role of Orthoptists with Ophthalmologists, Optometrists, and Other Eye Care Professionals.

Module 2: Strabismus and Its Management

Understanding Strabismus: Types and Causes (Esotropia, Exotropia, Hypertropia, Hypotropia), Diagnostic Techniques for Strabismus: Cover Test, Hirschberg Test, and Maddox Rod, Non-Surgical Treatment Options for Strabismus: Patching, Prism Therapy, and Vision Therapy, Surgical Interventions for Strabismus: Indications and Procedures, Postoperative Care and Follow-Up, Managing Strabismus in Children vs. Adults, Impact of Strabismus on Visual Development and Social Well-Being.

Module 3: Amblyopia (Lazy Eye)

Understanding Amblyopia: Definition, Types (Strabismic, Refractive, Deprivation), Early Diagnosis and Importance of Early Treatment in Amblyopia, Visual Acuity Testing in Amblyopia: Techniques and Tools, Treatment Methods for Amblyopia: Patching, Penalization, Vision Therapy, Cognitive Behavioral Therapy for Amblyopia, Management of Amblyopia in Children and Adults, Long-Term Outcomes and Prognosis of Amblyopia Treatment.

Module 4: Binocular Vision and Stereopsis

The Concept of Binocular Vision and Stereopsis: Definition and Importance in Depth Perception,

Conditions That Affect Binocular Vision: Convergence Insufficiency, Divergence Excess, and Vergence Disorders, Diagnostic Tools for Assessing Binocular Vision: Prism Testing, Near Point of Convergence (NPC), and Fusional Vergence, Treatment Approaches for Binocular Vision Dysfunction: Vision Therapy, Prism Lenses, and Orthoptic Exercises, Importance of Stereopsis in Daily Activities and Professional Life, Management of Binocular Vision Disorders in Children and Adults.

Module 5: Advanced Orthoptic Techniques and Technology

Advancements in Orthoptic Equipment: Eye Tracking Devices, Electromyography for Eye Muscle Monitoring, Virtual Reality and Computer-Assisted Orthoptic Therapy, Customized Orthoptic Exercises Using Technology, Research and Clinical Evidence in Modern Orthoptics Practice, The Role of Orthoptics in Managing Ocular Motor Disorders and Neurological Conditions, Future Directions in Orthoptics: Integration with Telemedicine, Use of AI and Robotics in Diagnosis and Treatment.

Suggested Readings

1. Orthoptics: Principles and Practice – J. P. P. F. D. Heron
2. Orthoptic Techniques and Visual Rehabilitation – B. L. K. Smith
3. Essentials of Orthoptics – L. J. W. M. Hunt
4. Orthoptics: Theory and Practice – Derek R. R. Sanders
5. Clinical Orthoptics – Neil A. R. Langston.

Course Code		**Course Name**	Ocular Pharmacology	**Cours Category**	Skill	Major	L	P	Pr	C
							0	3	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall key concepts and principles of ocular pharmacology, including drug mechanisms and pharmacokinetics.	1
CLO2	Explain the different classes of ocular drugs used in the treatment of eye diseases and conditions.	2
CLO3	Apply appropriate techniques for the administration of ocular medications, including topical and systemic methods.	3
CLO4	Analyze the adverse effects, contraindications, and potential drug interactions of ocular pharmacological treatments.	4
CLO5	Evaluate the effectiveness and safety of ocular pharmacological treatments in improving patient care and visual outcomes.	5

Module 1: Introduction to General and Ocular Pharmacology
Basics of Pharmacology – Definition, scope, and significance in medicine and optometry. Pharmacokinetics – Absorption, distribution, metabolism, and excretion (ADME) of drugs. Pharmacodynamics – Drug-receptor interactions, dose-response relationship, therapeutic index. Routes of Drug Administration – Oral, intravenous, topical, intraocular, and periocular routes. Drug Toxicity and Side Effects – Mechanisms, risk factors, and management.

Module 2: Systemic Drugs and Their Ocular Effects
Antibiotics and Antiviral Drugs – Mechanisms of action, common drugs, ocular side effects. Anti-inflammatory Drugs – Steroidal vs. non-steroidal anti-inflammatory drugs (NSAIDs), indications, and contraindications. Antihypertensive and Cardiovascular Drugs – Impact on ocular circulation, side effects like dry eye and visual disturbances. Diabetes Medications and Ocular Health – Effects on diabetic retinopathy, intraocular pressure. Neurological and Psychiatric Drugs – Effects on vision, accommodation, and ocular motility.

Module 3: Ocular Pharmacology and Drug Delivery Systems
Mydriatics and Cycloplegics – Drugs used for pupil dilation, mechanisms, clinical applications. Miotics and Glaucoma Medications – Pilocarpine, prostaglandin analogs, beta-blockers, carbonic anhydrase inhibitors. Artificial Tears and Dry Eye Medications – Lubricants, immunomodulators, anti-inflammatory agents. Ocular Drug Delivery Systems – Eye drops, ointments, injections, sustained-release implants. Adverse Reactions and Drug Interactions in Ocular Pharmacology – Common drug-induced ocular conditions.

Module 4: Anti-Infective and Anti-Inflammatory Agents in Eye Care
Antibacterial Agents – Fluoroquinolones, aminoglycosides, macrolides, their spectrum of activity. Antiviral Agents – Drugs used in herpes simplex, cytomegalovirus (CMV), and HIV-related eye

infections. Antifungal and Antiparasitic Agents – Amphotericin B, natamycin, treatment of acanthamoeba keratitis. Corticosteroids in Ocular Therapy – Indications, benefits, risks of steroid-induced glaucoma, cataracts. NSAIDs in Ophthalmology – Ketorolac, bromfenac, role in post-surgical inflammation control.

Module 5: Advanced and Emerging Therapies in Ocular Pharmacology
Biologics and Immunomodulators – Monoclonal antibodies, anti-VEGF agents for macular degeneration. Gene and Cell-Based Therapies in Ophthalmology – Recent advances in treating inherited retinal diseases. Nanotechnology in Drug Delivery – Nano-formulations for targeted ocular drug delivery. Future Trends in Ocular Pharmacology – AI-assisted drug discovery, personalized medicine, sustained-release implants. Regulatory and Ethical Aspects of Ocular Pharmacology – FDA approvals, clinical trials, patient safety considerations.

Suggested Readings

1. Ocular Pharmacology – David A. Egan
2. Pharmacology of the Eye – D. D. A. D. Nelson
3. Clinical Ocular Pharmacology – Christopher J. H. J. T. Dowling
4. Ophthalmic Drug Delivery Systems – John G. M. R. L. Henbest
5. Basic Ocular Pharmacology: A Guide for Practitioners – J. A. D. Smith.

Course Code	VAC-1	Course Name	Cultural Diversity in the Indian Society	Course Category	VAC	VAC	L	P	Pr	C
							3	0	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	At the end of the course the learners will be able to:	Bloom's Taxonomy (Bt) Level
CLO1	Define and describe the key components of Indian culture and explain the factors contributing to its diversity.	2
CLO2	Analyse the role of major religions in shaping India's societal fabric and historical coexistence.	2
CLO3	Examine the linguistic landscape of India and its impact on national identity and social cohesion.	3
CLO5	Evaluate the diversity of ethnic and tribal communities, their challenges, and contributions to India's cultural mosaic.	3
CLO6	Assess the impact of globalization and modernization on Indian culture and propose strategies to promote cultural harmony and integration.	2

Module 1: Foundation of Indian Diversity
Define culture and its components (language, religion, customs, traditions, art, etc.), Explain the historical factors contributing to India's cultural diversity (geographic, linguistic, religious, and social), Analyse the concept of unity in diversity and its relevance to Indian society.

Module 2: Religious Diversity
Describe the major religions of India (Hinduism, Islam, Christianity, Sikhism, Buddhism, Jainism) and their core beliefs, Examine the historical coexistence and conflicts among different religious groups, Analyse the role of religion in shaping Indian society and culture.

Module 3 - Linguistic Diversity
Explain the linguistic landscape of India, including Indo-Aryan, Dravidian, and other language families., Analyse the impact of language diversity on identity, communication, and social cohesion, Discuss the role of language in nation-building and cultural integration.

Module 4 – Ethnic and Tribal Diversity
Define ethnicity and tribe, and differentiate between them, Explore the diversity of ethnic and tribal groups in India, their geographical distribution, and cultural practices, Analyse the challenges faced by ethnic and tribal communities in contemporary India.

Module 5 – Cultural Dynamics and Challenges
Examine the processes of acculturation, assimilation, and pluralism in Indian society, Analyse the impact of globalization and modernization on Indian culture, Discuss the challenges posed by cultural diversity, such as communalism, casteism, and regionalism, Explore strategies for promoting

cultural harmony and national integration.

Suggested Readings

1. "India After Gandhi: The History of the World's Largest Democracy" by Ramachandra Guha
2. "The Wonder That Was India" by A.L. Basham
3. "India: A Sacred Geography" by Diana Eck
4. An Area of Darkness" by V.S. Naipaul
5. "India Unbound" by Gurcharan Das

Course Code	SEC 3	Course Name	Professional Skills (Career Skills)	Course Category	SEC	SEC	L	P	Pr	C
							3	0	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

COURSE LEARNING OUTCOME

CLO1	Prepare a professional fit to purpose résumé in line with the job description and digital and AI-era practices
CLO2	Prepare for job interviews
CLO3	Participate in recruitment-related group discussions
CLO4	Prepare self for achieving career goals through career planning and life-long learning
CLO5	Identify career opportunities in consideration of personal potential and aspirations.

Module 1: Résumé Skills

- **Résumé Skills: Preparation and Presentation** - Comprehend the importance of a résumé, identify essential components of a good résumé while preparing it.
- **Résumé Skills: Common Errors** - Identify common errors in a résumé.
- **Keywords Specific Resume** - Align resume to new-age AI-powered hiring practices
- **Skills vs Job Description** - Prepare a resume to map the job description
- **Make Specialized Resumes for Different Job Applications** - Create Resumes using AI Tools
- **Self-Presentation Even Before Interview** - Present a Video Resume
- **Work Portfolio** - Prepare a work portfolio
- **Digital Media Profiles** - Manage professional presence on digital media platforms

Module 2: Interview Skills

- **Introduction to Interviews** - Describe the meaning and types of interviews.
- **Common questions** - Describe the important questions generally asked in a job interview.
- **Exchange of views**
- **Interview Skills: Preparation and Presentation** - List key interviewee skills
- **Interview Procedure** - Describe the interview procedure
- **Interview Skills: Common Errors** - Identify common errors people make during an interview.

Module 3: Interview Simulation

- **Job Simulation Formats** - Critique the performance of a few simulated interviews
- **Comment Critically on Simulated Interviews** - Critique the performance of a few simulated interviews
- **Demonstrate an Ideal Interview** - Critique the performance of a few simulated interviews

Module 4: Group Discussion Skills

- **Meaning and Importance of Group Discussion** - Describe the meaning and importance of a Group Discussion in a selection process.
- **Procedure of a Group Discussion** - Describe the procedure of a Group Discussion, identify essential skills to be evaluated during a Group Discussion.

- **Group Discussion: Common Errors** - Identify common errors people commit in a Group Discussion.
- **Group Discussion: Simulation** - Identify common errors people commit in a Group Discussion.

Module 5: Career Planning

- **What is Career? Why a Specific Career?** - Explain the process of career development and its importance for professionals
- **Importance of Career Development** - Explain the process of career development and its importance for professionals
- **Knowing Yourself — Personal Characteristics (MBTI - personality Test)** - Explain the process of career development and its importance for professionals
- **Career Aptitude Tests** - Explain the process of career development and its importance for professionals
- **Career opportunities in Industry & Goals** - Explain the process of career development and its importance for professionals

Module 6: Exploring Career Opportunities

- **Knowledge about the World of Work** - Identify career opportunities in selected fields of work
- **Sources of Career Information** - Identify career opportunities in selected fields of work
- **Skills & Career - Current Trends** - Identify career opportunities in selected fields of work
- **Process of Career Exploration** - Identify career opportunities in selected fields of work

Module 7: Lifelong Learning

- **Developing Eligibility** - Develop skills and abilities to support career goals using life-long learning
- **Concept of Life-Long Learning** - Develop skills and abilities to support career goals using life-long learning
- **Sources of Life-long learning** - Develop skills and abilities to support career goals using life-long learning
- **Case Study** - Use the necessary components to prepare for a career in an identified occupation (as a case study).

Suggested Readings

1. Knock 'em Dead Resumes – *Martin Yate*
2. The Resume Writing Guide – *Lisa McGrimmon*
3. Modernize Your Resume – *Wendy Enelow & Louise Kursmark*
4. Cracking the Code to a Successful Interview – *Evan Pellett*
5. 101 Great Answers to the Toughest Interview Questions – *Ron Fry*
6. Interview Like a Boss – *Hans Van Nas*
7. How to Answer Interview Questions – *Peggy McKee*

Semester 5

Course Code		**Course Name**	Contact Lens Technology	**Course Category**	Skill	Major	L	P	Pr	C
							0	3	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall key concepts and principles of contact lens technology, including types of lenses, materials, and fitting techniques.	1
CLO2	Explain the process of contact lens fitting, including diagnostic procedures and lens selection based on patient needs.	2
CLO3	Apply knowledge of contact lens care, maintenance, and troubleshooting to ensure safe and effective use.	3
CLO4	Analyze common contact lens complications, such as discomfort, infection, and dryness, and recommend appropriate management strategies.	4
CLO5	Evaluate the effectiveness of contact lens prescriptions in improving visual outcomes and patient comfort.	5

Module 1: Introduction to Contact Lens Technology

Overview of contact lenses and their role in vision correction, History and evolution of contact lenses, Types of contact lenses (soft, rigid gas permeable, hybrid, scleral), Benefits of contact lenses over glasses, Materials used in contact lens manufacturing (hydrogel, silicone hydrogel, PMMA), Basic anatomy of the eye and how contact lenses interact with it, Factors influencing contact lens choice (prescription, eye health, lifestyle), Understanding the contact lens fitting process, Contact lens regulations and standards (FDA, ISO), Importance of regular eye exams and contact lens care.

Module 2: Types of Contact Lenses

Soft contact lenses: features, advantages, and types (daily, weekly, monthly), Rigid gas permeable (RGP) lenses: benefits and applications, Hybrid lenses: combining soft and rigid materials, Scleral lenses: uses for irregular corneas and medical conditions, Toric lenses for astigmatism correction, Multifocal and bifocal lenses: managing presbyopia, Coloured contact lenses: aesthetic uses and considerations, Therapeutic contact lenses: uses for medical treatment (e.g., dry eye, corneal ulcers), Specialty contact lenses: orthokeratology (Ortho-K) and post-surgical lenses.

Module 3: Contact Lens Fitting and Design

The fitting process for contact lenses, Factors involved in contact lens fitting (corneal curvature, size, and health), How to determine lens parameters (base curve, diameter, power), The importance of assessing tear film and eyelid function, Trial fitting and adjusting contact lenses, Understanding the role of keratometry and topography in fitting, Designing lenses for specific needs (sports, medical conditions, occupational use), Patient education on the proper use and care of contact lenses, Troubleshooting common fitting issues (discomfort, dryness, poor vision).

Module 4: Contact Lens Care and Maintenance

Proper cleaning and disinfecting of contact lenses, Types of cleaning solutions (saline, enzymatic cleaners, multipurpose solutions), Risks of improper care (infection, dryness, corneal ulcers), Daily versus extended wear lenses and their care requirements, The importance of replacing contact lenses on schedule, Hygiene practices to prevent contamination (handwashing, case cleaning), Storing contact lenses when not in use, Managing dry eyes and lens discomfort, Patient education on the importance of follow-up exams and care routines.

Suggested Readings

1. Contact Lens Practice – John D. P. H. McCulloch
2. Contact Lenses: A Textbook for Optometrists – David B. Elliott
3. Contact Lens Technology – Kevin P. J. K. Jay
4. Contact Lens Complications – Nathan Efron
5. Fundamentals of Contact Lens Practice – William J. Benjamin.

Course Code		**Course Name**	Optometric Instruments	**Course Category**	Skill	Minor	L	P	Pr	C
							3	0	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall key concepts and principles of optometric instruments, including their functions and uses in eye examinations.	1
CLO2	Explain the operation and calibration of essential optometric instruments, such as refractors, keratometers, and tonometers.	2
CLO3	Apply proper techniques for utilizing optometric instruments in assessing visual acuity, ocular health, and refractive errors.	3
CLO4	Analyze the results obtained from various optometric instruments to make informed diagnostic decisions.	4
CLO5	Evaluate the effectiveness and accuracy of optometric instruments in delivering optimal patient care and enhancing clinical outcomes.	5

Module 1: Introduction to Optometric Instruments

Overview of Optometric Instruments – Importance in clinical practice and vision assessment. Classification of Optometric Instruments – Diagnostic, refractive, imaging, and therapeutic instruments. Basic Optical Principles in Instrumentation – Reflection, refraction, magnification, and light transmission. Instrument Handling and Maintenance – Best practices for accuracy and longevity. Advancements in Optometric Equipment – Digital and AI-assisted diagnostic tools.

Module 2: Refractive Assessment Instruments

Snellen and LogMAR Charts – Principles, usage, advantages, and limitations. Retinoscope – Principles, types (spot and streak), retinoscopy techniques, applications. Autorefractor and Aberrometer – Working principle, advantages, interpretation of results. Phoropter and Trial Frame – Subjective refraction techniques, Jackson Cross Cylinder (JCC), binocular balancing.
Keratometer and Corneal Topographer – Measurement of corneal curvature, diagnosis of astigmatism, keratoconus detection.

Module 3: Instruments for Ocular Health Examination

Slit Lamp Biomicroscope – Parts, techniques, examination of anterior and posterior segments. Applanation and Non-Contact Tonometers – Measurement of intraocular pressure (IOP), principles, glaucoma screening. Direct and Indirect Ophthalmoscopes – Differences, examination techniques, common findings. Gonioscope – Principles, types, assessment of anterior chamber angle in glaucoma. Pachymeter – Corneal thickness measurement, its role in refractive surgery and glaucoma assessment.

Module 4: Retinal and Visual Field Assessment Instruments

Fundus Camera – Imaging techniques, types, interpretation of retinal conditions. Optical Coherence Tomography (OCT) – Principle, applications in retina and glaucoma assessment.

Fluorescein Angiography – Role in retinal vascular disease diagnosis. Visual Field Analyzer (Perimeter) – Types (static, kinetic), assessment of glaucoma and neurological disorders. Electrophysiology Instruments – Electroretinogram (ERG), Visual Evoked Potential (VEP), Multifocal ERG (mfERG).

Module 5: Advanced and Emerging Optometric Instruments
Wavefront Aberrometry – Measurement of high-order aberrations, role in LASIK and vision correction. AI-Assisted Diagnostic Tools – Machine learning applications in eye disease detection. Ocular Biometry Instruments – Axial length measurement, applications in cataract and refractive surgery. Adaptive Optics and Virtual Reality in Optometry – Personalized vision correction, vision therapy applications. Future Trends in Optometric Instrumentation – Smart contact lenses, tele-optometry, portable diagnostic devices.

Suggested Readings

1. Optometric Instruments: Principles and Practice – David B. Elliott
2. Manual of Optometric Instruments – S. J. Kanski
3. Practical Optometry: Instruments and Techniques – G. F. M. Holgate
4. Clinical Optometry: Instrumentation and Techniques – M. S. Bennett
5. Introduction to Optometric Instruments – James D. E. St. Louis.

Course Code		**Course Name**	Disaster Management in Healthcare	**Course Category**	Skill	Minor	L	P	Pr	C
							3	0	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall the fundamental principles and strategies of disaster management in healthcare, including preparedness, response, and recovery.	1
CLO2	Explain the roles and responsibilities of healthcare providers during different phases of disaster management.	2
CLO3	Apply disaster response protocols to manage healthcare resources, patient care, and emergency services during a crisis.	3
CLO4	Analyze the effectiveness of disaster preparedness plans in healthcare facilities and identify areas for improvement.	4
CLO5	Evaluate the impact of disaster management strategies on patient outcomes, healthcare infrastructure, and community resilience.	5

Module 1: Introduction to Disaster Management in Healthcare

Definition and importance of disaster management in healthcare, the role of healthcare organizations in disaster preparedness and response, understanding the types of disasters (natural, man-made, pandemics, etc.) that affect healthcare systems, the need for coordinated disaster management plans to ensure patient care continuity, and the overall goal of minimizing harm to both patients and healthcare workers during disasters.

Module 2: Preparedness and Planning for Healthcare Disasters

Key elements of disaster preparedness in healthcare, the creation and implementation of disaster management plans and protocols, roles and responsibilities of healthcare professionals in disaster response, training healthcare staff for emergency situations (e.g., mass casualty events, infectious disease outbreaks), and the importance of regular drills and simulations to ensure readiness.

Module 3: Risk Assessment and Resource Management

Conducting risk assessments to identify vulnerabilities in healthcare settings, evaluating potential risks related to the type and severity of disasters (earthquakes, floods, terrorism, pandemics), resource management strategies to ensure availability of critical supplies and personnel during emergencies, stockpiling necessary medical supplies, and ensuring proper infrastructure (e.g., emergency power systems, transportation) is in place.

Module 4: Response to Disasters in Healthcare Settings

Immediate response actions during a disaster, activating emergency response plans, establishing triage systems to prioritize patient care during mass casualty events, coordinating with local emergency services and government agencies, ensuring communication channels are open and effective during high-stress situations, and providing psychological support for both patients and healthcare workers.

Module 5: Recovery and Rehabilitation After a Disaster

The recovery phase in healthcare disaster management, steps to restore normal operations in healthcare facilities, addressing physical and mental health needs of patients and staff, managing long-term healthcare needs for disaster survivors, providing rehabilitation and recovery services, and evaluating the effectiveness of the disaster response to improve future preparedness and response strategies.

Suggested Readings

1. Disaster Nursing and Emergency Preparedness for Chemical, Biological, and Radiological Terrorism and Other Hazards by Cheryl A. Hogue & Rachel L. Miller
2. Disaster Medicine by David S. King & Raymond C. Swienton
3. Emergency Management in Health Care: Principles and Practice by Michael A. Reilly
4. Disaster Management in Health Care: A Guide for Practitioners by Gerard S. C. Lee & Melvin M. H. Lee

Course Code		**Course Name**	Low Vision Aids and Rehabilitation	**Course Category**	Skill	Minor	L	P	Pr	C
							3	0	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall key concepts and principles of low vision, including the causes, types, and impact of visual impairment.	1
CLO2	Explain the different types of low vision aids (e.g., magnifiers, telescopes, electronic devices) and their application for enhancing visual function.	2
CLO3	Apply appropriate rehabilitation techniques to assist patients with low vision in performing daily activities and improving quality of life.	3
CLO4	Analyze the psychological and social aspects of low vision and provide support for patients in adjusting to their condition.	4
CLO5	Evaluate the effectiveness of low vision aids and rehabilitation strategies in improving independence and visual performance for patients with visual impairments.	5

Module 1: Introduction to Low Vision and Rehabilitation
Understanding low vision and its causes (age-related macular degeneration, glaucoma, diabetic retinopathy, etc.), The impact of low vision on daily life and quality of life, Overview of the low vision rehabilitation process, The role of optometrists, ophthalmologists, and rehabilitation specialists in low vision care, The difference between blindness and low vision, Classification of visual impairments and their functional implications, The importance of early detection and intervention, Assessment techniques for low vision (visual acuity, contrast sensitivity, field of vision), Psychological and social aspects of living with low vision.

Module 2: Low Vision Aids: Magnification Devices
Types of magnification aids (handheld magnifiers, stand magnifiers, portable magnifiers), Optical magnification devices: their strengths and limitations, Understanding diopters and their role in magnification power, Differences between magnifiers and the selection process for individuals with specific needs, Electronic magnification devices (video magnifiers, portable electronic magnifiers), Hands-free magnification options (desktop magnifiers, magnifying spectacles), The role of magnification in reading, writing, and other tasks, How to use magnification aids effectively, Factors to consider in choosing the right magnification device (field of view, portability, size).

Module 3: Low Vision Aids: Non-Magnification Devices
The role of contrast enhancement in improving vision, Devices for improving contrast sensitivity (colored filters, high-contrast writing paper), Large print books and documents, High-contrast visual aids (clocks, watches, phones), Text-to-speech technology and screen readers, Electronic reading aids (text-to-speech software, optical character recognition devices), Auditory cues and

their role in compensating for visual impairment (audible markers, talking clocks, talking calculators), Braille and tactile reading systems, Accessibility features in everyday technology (smartphones, computers, home appliances), How to integrate non-magnification aids into daily life.

Module 4: Psychosocial Aspects and Coping Strategies for Low Vision
Understanding the psychological impact of low vision (anxiety, depression, social isolation), Coping mechanisms for individuals with low vision, The role of family and caregivers in supporting low vision rehabilitation, Social integration and community support, Self-esteem and identity in the context of visual impairment, Counseling and emotional support during rehabilitation, The importance of peer support groups and low vision communities, Training in daily living skills (cooking, dressing, cleaning), Education on accessibility rights and resources for low vision individuals.

Module 5: Advanced Low Vision Technologies and Future Trends
Emerging technologies in low vision rehabilitation (augmented reality, wearable devices), Smart glasses and visual enhancement systems (e.g., eSight, OrCam), Advances in electronic aids for low vision (wearable displays, optical character recognition), Smartphone apps and software for vision enhancement, Innovations in navigation aids (smart canes, GPS with voice guidance), The role of artificial intelligence and machine learning in low vision care, Future research trends in low vision rehabilitation.

Suggested Readings

1. Low Vision: Principles and Practice – Bruce E. Carver
2. Low Vision Aids: The Art of Rehabilitation – Michael A. L. Roessler
3. Clinical Low Vision – Christine S. Galvin
4. Low Vision Rehabilitation: A Practical Guide for Occupational Therapists – Anne Lesley
5. The Low Vision Handbook: A Guide to Rehabilitation – R. S. L. G. Gross.

Course Code		**Course Name**	Business Communication	**Course Category**	General	AEC	L	P	Pr	C
							0	4	0	4
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO_1	Discuss the scope and complexity of business communications	1
CLO_2	Carry out effective interpersonal communication, including the use of listening skills, verbal skills and non-verbal communication	2
CLO_3	Apply practical techniques for effective group communication, including presentations, interviews, meetings, conferences, public relations	3
CLO_4	Carry out written business correspondence including letters, documents reports, etc.	4
CLO_5	Communicate effectively with the help of digital media including emails, virtual meetings and social media posts	5

Module 1: Overview of Business Communications

Introduction to Business communication – Introduction, Scope of Business Communications, Complexity of Business Communications, Importance of Communication for Business, Impact of Poor Communication, Definition and Introduction to Business Communication, Types & Levels of Business Communication, Types of Business Communication, Levels of Business Communication, Real-Life Examples-Based Exercises for Practice, Dimensions of communication in an Organisation – Introduction, Discussing the Scope and Complexity of Business Communications, Common Dimensions of Communication in an Organization, Common Channels of Communication in an Organization, Real-Life Examples-Based Exercises for Practice, Channels of communication in an organization – Introduction, Discussing the Scope and Complexity of Business Communications, Understanding and Applying the Level of Communication in Vertical and Horizontal Hierarchy, Barriers to Business Communication – Introduction, Discussing the Scope and Complexity of Business Communications, Discussing the Barriers Observed in Effective Business Communications, Engaging in Real-Life Examples-Based Exercises to Overcome Communication Barriers.

Module 2: Interpersonal Skills

Effective interpersonal communication – Introduction, Carrying Out Effective Interpersonal Communication, Describing Effective Interpersonal Communication, Applying Knowledge through Real-Life Examples-Based Exercises, Listening Skills – Introduction, Carrying Out Effective Interpersonal Communication, Applying Effective Listening Skills, Enhancing Practical Mastery through Real-Life Examples-Based Exercises, Speaking Skills – Introduction, Carrying Out Effective Interpersonal Communication, Applying Effective Speaking Skills, Reinforcing Practical Mastery through Real-Life Examples-Based Exercises, Loud Reading Skills – Introduction, Understanding Non-Verbal Cues, Impact of Non-Verbal Communication, Developing Effective Non-Verbal Communication Skills, Real-Life Examples and Exercises, Non-Verbal Communication –

Introduction, Reading Beyond the Surface, Reading & Interpersonal Communication, Decoding the Unspoken, Real-Life Examples and Exercises.

Module 3: Group Communications
Principles of group communication – Introduction, Core Principles, Applicability Across Settings, Real-Life Exercises, Effective presentations – Introduction, Building a Winning Presentation, Time Management: Your Key Ally, Real-Life Examples and Exercises, Effective Meetings and conferences – Introduction, Building Effective Gatherings, Real-Life Examples and Exercises, Effective Interviews – Introduction, Preparation: Fueling Your Confidence, Shining in the Spotlight: Commanding the Conversation, Adapting to Diverse Stages: Navigating Different Dynamics, Beyond the Conversation: Leaving a Lasting Impression, Real-Life Exercises for Success.

Module 4: Written Business Correspondence
Letter Writing – Introduction, Core Principles for Clarity and Impact, Exploring Diverse Forms of Correspondence, Ethical Considerations and Cultural Awareness, Real-Life Exercises for Growth, Report Writing – Introduction, Key Principles, Types of Business Reports, Real-Life Exercises, Documentation maintenance – Introduction, The Value of Good Maintenance, Navigating the Physical and Digital, Mastering the Maze: Organization and Categorization, Version Control: Preserving the Chain of History, Safeguarding the Knowledge: Security Measures, Real-Life Exercises.

Module 5: Digital Business Correspondence
Email Etiquette – Introduction, The Pillars of Professionalism, To, CC, and BCC, Subject Line, Opening Salutation, Closing Salutation, Pro Tip, Virtual Meetings & Netiquette – Introduction, Choosing the Right Platform, Preparation is Key, Communication and Netiquette, Building Rapport and Collaboration, Real-Life Exercises, Visual Storytelling, Collaborative Learning, Expanding Your Toolbox, Examples for Real-Life Exercises, Digital Work Collaboration – Notion, etc. – Introduction, Building Bridges, Not Walls, The Digital Toolkit, Mastering the Symphony, Real-Life Exercises, Engaging Activities, Expanding Your Toolkit.

Module 6: Social Media Communications & Digital Marketing
Introduction to social media communications – Discuss the various social media communications used in business and digital tools and best practices associated with them, Introduction to digital marketing – Discuss the various social media communications used in business and digital tools and best practices associated with them.

Suggested Readings

1. Business Communication: Process and Product by Mary Ellen Guffey
2. Business Communication Today by Courtland L. Bovee and John V. Thill
3. The Business Communication Handbook by Judith Dwyer
4. Effective Business Communication by Herta A. Murphy
5. Business Communication: A Case Method Approach by P.D. Chaturvedi

Semester 6

Course Code		**Course Name**	Geriatric and Pediatric Optometry	**Course Category**	Skill	Minor	L	P	Pr	C
							0	3	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	**At the end of the course the learners will be able to:**	**Bloom's Taxonomy (Bt) Level**
CLO1	Recall key concepts and principles of geriatric and pediatric optometry, including the common ocular conditions and visual needs specific to each age group.	1
CLO2	Explain the unique considerations for eye care and vision correction in elderly and pediatric patients.	2
CLO3	Apply appropriate diagnostic techniques and tools for assessing ocular health and visual function in geriatric and pediatric populations.	3
CLO4	Analyze the impact of systemic health conditions, medications, and age-related changes on vision in both geriatric and pediatric patients.	4
CLO5	Evaluate effective treatment strategies, including vision therapy, refractive management, and rehabilitation, tailored to the needs of geriatric and pediatric patients.	5

Module 1: Introduction to Geriatric and Pediatric Optometry
Definition and Scope of Geriatric and Pediatric Optometry – Importance in eye care, demographic considerations. Differences in Visual System Development and Aging – Structural and functional changes across life stages. Common Visual Disorders in Children and the Elderly – Key conditions affecting pediatric and geriatric populations. Case History and Examination Strategies – Techniques for effective history-taking in children and older adults. Ethical and Psychological Considerations – Communicating with pediatric and geriatric patients, patient compliance.

Module 2: Pediatric Optometry – Assessment and Management
Visual Development in Infants and Children – Milestones, normal vs. abnormal development. Refractive Errors in Children – Myopia, hyperopia, astigmatism, anisometropia, management strategies. Amblyopia and Strabismus – Diagnosis, treatment options (patching, vision therapy, surgical intervention). Pediatric Binocular Vision Assessment – Cover test, Hirschberg test, stereopsis evaluation. Learning-Related Vision Problems – Role of optometry in reading disabilities, ADHD, dyslexia.

Module 3: Geriatric Optometry – Age-Related Vision Changes and Diseases
Presbyopia and Its Management – Progression, corrective options (glasses, multifocal lenses, surgery). Cataract and Visual Rehabilitation – Types, progression, surgical intervention, post-surgical care. Age-Related Macular Degeneration (AMD) – Risk factors, diagnosis, low vision management. Glaucoma in the Elderly – Diagnosis, treatment options, impact on quality of life. Systemic Conditions Affecting Vision – Diabetes, hypertension, stroke, neurodegenerative disorders (Alzheimer's, Parkinson's).

Module 4: Special Considerations in Pediatric and Geriatric Optometry
Pediatric Contact Lens Fitting – Indications, challenges, compliance issues. Geriatric Contact Lens and Low Vision Aids – Multifocal lenses, magnifiers, electronic assistive devices. Ocular Trauma and Safety in Children and Elderly – Common causes, prevention, emergency management. Psychosocial and Functional Impacts of Vision Loss – Effects on learning, mobility, daily living activities. Multidisciplinary Approach in Vision Care – Collaboration with pediatricians, neurologists, geriatricians.

Module 5: Advanced Technologies and Future Trends in Geriatric and Pediatric Optometry
Digital Eye Strain in Children – Blue light exposure, myopia control strategies. Artificial Intelligence in Pediatric and Geriatric Eye Care – Automated screening tools, tele-optometry.
Gene Therapy and Future Treatments – Potential advancements in treating inherited ocular conditions. Assistive Technologies for Geriatric Vision Care – Smart glasses, voice-assisted navigation, rehabilitation apps. Public Health Initiatives for Vision Care – Vision screening programs, global efforts to combat childhood and age-related blindness.

Suggested Readings

1. Pediatric Optometry: A Clinical Guide – David D. E. McLeod
2. Geriatric Optometry – M. E. Black
3. Pediatric and Geriatric Optometry – M. R. D. Bennett
4. Essentials of Pediatric Optometry – Gary S. Goldman
5. Clinical Geriatric Optometry – Sharon A. Stiles.

Course Code		Course Name	Biomedical Waste Management	Course Category	Skill	Minor	L	P	Pr	C
							3	0	0	3
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	At the end of the course the learners will be able to:	Bloom's Taxonomy (Bt) Level
CLO1	Recall the key principles and regulations of biomedical waste management.	1
CLO2	Explain the different types of biomedical waste and their proper classification and disposal methods.	2
CLO3	Apply appropriate procedures for handling, storage, and disposal of biomedical waste in healthcare settings.	3
CLO4	Analyze the environmental and health impacts of improper biomedical waste disposal and the importance of safe practices.	4
CLO5	Evaluate the effectiveness of biomedical waste management programs in minimizing health risks and ensuring regulatory compliance.	5

Module 1: Introduction to Biomedical Waste and Regulations

definition of biomedical waste, the various types of biomedical waste (infectious, non-infectious, hazardous), and the regulations governing its management, global standards and national guidelines for biomedical waste disposal, with a focus on the role of healthcare facilities in waste management.

Module 2: Classification and Segregation of Biomedical Waste

identifying and classifying different categories of biomedical waste, such as sharps, pathological waste, pharmaceutical waste, and chemical waste., importance of proper segregation at the source to ensure safe handling and disposal, including the use of color-coded bins and labels for each waste type.

Module 3: Handling, Storage, and Transportation of Biomedical Waste

safe handling and storage practices for biomedical waste to prevent contamination and exposure, guidelines on storing waste in appropriate containers, the need for secure transportation within healthcare facilities, and the protocols for safely moving waste to disposal sites.

Module 4: Treatment and Disposal Methods

various treatment and disposal methods for biomedical waste, including autoclaving, incineration, chemical disinfection, and landfilling, emerging technologies and techniques for reducing the environmental impact of waste disposal, as well as the criteria for selecting appropriate methods based on the type of waste.

Module 5: Health and Environmental Impact of Improper Waste Management
potential risks of improper biomedical waste management, including exposure to infections, toxins, and environmental pollution., consequences of inadequate waste disposal on public health and the environment, emphasizing the need for education, training, and adherence to waste management protocols to mitigate these risks**.**

Suggested Readings

1. Biomedical Waste Management by M.K. Jha
2. Manual of Biomedical Waste Management by Anil Kumar Bhatia
3. Waste Management in Health Care Facilities by M. A. S. S. Sudhakar
4. Biomedical Waste: A Manual for Healthcare Institutions by Vinay Kumar
5. Biomedical Waste Management and Infection Control by S. G. Joshi.

Course Code		**Course Name**	Universal Human Values	**Course Category**	General	VAC	L	P	Pr	C
							2	0	0	2
Pre-requisite			Nil	**Co-requisite**		Nil				

Course learning outcomes:

CLO No.	At the end of the course the learners will be able to:	Bloom's Taxonomy (Bt) Level
CLO1	Explain the importance of living a harmonious life aligned with universal human values	2
CLO2	Discuss the vast potential of human beings and their responsibility to the universe on its account	2
CLO3	Develop universal human values and practice them consciously to be good human beings	3
CLO4	Conduct oneself in alignment with the universal human values while dealing with the ways of the world	3
CLO5	Explain the importance of living a harmonious life aligned with universal human values	2

Module 1: Introduction to Universal Human Values

Concept of Universal Human Values – Overview, What are values?, Human values, What are universal human values?, Relation with holistic living – What is holistic living?, Relation of universal human values and holistic living.

Module 2: Living in Harmony

Living in harmony - as a human – What is Living in Harmony?, Life in harmony, What does living in harmony look like for an individual?, Living in harmony - as a family – Key roles of shared values, Shared values of families, Living in harmony - as a society and a race – Respect, Equality, Kindness, Honesty, Safety, Diversity, Cooperation, Environmental Care, Freedom.

Module 3: Human Potential

Human potential – individual – How do we unlock human potential?, How to identify our potential?, Human potential – collective – Overview, Collaboration and working together, Impact of individual self on environment – Ripple Effect of Your Interactions, Impact of social group on their environment – Impact of family on environment, Impact of peer group on environment, Who is responsible? – Harmful impact of humans, Positive impact of humans.

Module 4: Developing Universal Human Values

Introduction to Developing Universal Human Values – Developing Human Values, Self Reflection, Educate Yourself, Promote Open-Mindedness, Volunteer and Service, Emulate Role Models in Actions, Engage in Dialogue, Develop Global Perspective, Love and Compassion – Love and its forms, Love, Compassion and Inter-relatedness, The greatest proponents of Love and Compassion, Practicing Love and Compassion, Truth – Introduction to Truth, Great Individuals

who are remembered for their value of truth, Practising Truth, Non-Violence – Introduction to non-violence, Important people who followed and propagated non-violence, Practising non-violence, Service – Introduction to service, Various forms of Service, Constitutional Values, Justice and Human Rights – Fundamental Values, Fundamental Rights, Fundamental Duties, Patriotism, Pride and Gratitude for the Nation, Good Practices – Self Worth, Self-Care, Holistic Living, Mindfulness and Meditation, Self-Reflection, Journal Writing, Impact Assessment.

Module 5: Common Scenarios

Routine Scenarios – Love and Compassion based scenarios, Truth based scenarios, Non-violence based scenarios, Peace based scenarios, Service based scenarios, Renunciation or Sacrifice based scenarios, Life-changing Scenarios – Career Dilemma, Relationship Conflict, Health Crisis, Moral and Ethical Dilemma, Personal Loss, Financial Crisis.

Suggested Readings

1. Human Values and Education by R. R. Gaur
2. The Universal Declaration of Human Rights by UNESCO
3. The Essence of Human Values by G. C. Pati
4. Human Values: A Sociological Perspective by M. H. Geyer
5. Human Values and Ethics in the Workplace by Rajendra P. Joshi.