

## PROGRAM OUTCOME (POs)

Annexure-3N of AC-50/2024

Course Code	B. OPTOMETRY
PO1	<b>Knowledge Enhancement:</b> Students should know the anatomical and physiological basis of the eye and ocular anomalies, along with the optics of ocular structures, and working principles of various diagnostic and therapeutic instruments, and should demonstrate proficiency in optometric management.
PO2	<b>Skill Enhancement:</b> Acquire the practical skill set required for optometric screening, diagnosis, management, and rehabilitation of various ocular conditions
PO3	<b>Communication skills:</b> Develop Interpersonal competence in eye care services with patients and other professionals.
PO4	<b>Critical Thinking &amp; Trouble Shooting:</b> Identify and analyze the complexity of a problem and use knowledge and skill to solve it.
PO5	<b>Patient Care:</b> Demonstrate proficiency in understanding and catering dedicated optometric eye care services to patients.
PO6	<b>Community Eyecare:</b> Organize and Participate in various outreach activities (Camps & Awareness Program) for providing optometric eye care services to the community.
PO 7	<b>Optometry Speciality &amp; Entrepreneurship:</b> Update clinical knowledge and develop specialized skill sets across various disciples of optometry with an entrepreneurial approach to start and manage a successful optometry practice.
PO 8	<b>Entusiasm for Research:</b> Demonstrate a better understanding of research techniques analysis of scientific literature, and application of evidence-based practices in optometry.
PO 9	<b>Professional Ethics:</b> Adhere to the ethical guidelines of integrity, objectivity, confidentiality, competency, behavior, and accountability in optometric practice.
PO 10	<b>Leadership &amp; Team Work:</b> Effectively manage clinical situations and exhibit visionary goal setting, conflict resolution, decision-making, problem-solving, and fostering Interdisciplinary collaborative practice.
PO 11	<b>Collaboration with Different Healthcare Professionals:</b> Crucial for delivering high-quality patient care which includes enhanced communication, better resource utilization, innovation, problem-solving & communicating with different healthcare professionals for improved patient outcomes.
PO 12	<b>Holistic Development:</b> Comprehensive development in the areas of self-awareness, Emotional intelligence, stress management, and Time management.

## Course Outcomes (COs)

Course Code	B. OPTOMETRY
SEMESTER I	
<b>BOPTOM 101 L</b>	<b>Human Anatomy Part I</b>
CO1	Define basic technical terminology and language associated with medical anatomy
CO2	Identify and describe the gross anatomy of various tissues and organs in the human body along with Skeletal and Muscular Systems
CO3	Understand and demonstrate the anatomy of Respiratory system, Circulatory system, Digestive system and Excretory system with it's clinical application
<b>BOPTOM 102 L</b>	<b>Human Physiology Part I</b>
CO1	Describe basic physiological principles involved in normal funtioning of the human body and thier applications in comprehending the pathophysiology of various diseases.
CO2	To understand the basic mechanism operating and regulating different organ systems.
CO3	Ability to identify techniques to evaluate the funtioning of organ systems and interpret the results as normal or abnormal.
<b>BOPTOM 103 L</b>	<b>General Biochemistry &amp; Nutrition</b>
CO1	Understand the fundamental principles of biochemistry, including the chemistry and functions of biomolecules such as carbohydrates, proteins, lipids and nucleic acids.
CO2	Gain insights into the principles of bioenergetics and enzymology in human body.
CO3	Understand the basics of collection, handling and processing analysis of blood and urine samples for clinical diagnostics.

<b>BOPTOM 104 L</b>	<b>Introduction to National Health Care System (Multidisciplinary/Interdisciplinary)</b>
CO1	Understand the measures of the health services and high-quality health care
CO2	Gain Basic insight into the main features of Indian health care delivery system and how it compares with the other systems of the world.
CO3	Introduction to Background objectives, action plan, targets, operations,in various National Heath Programmes.
CO4	Introduction the AYUSH System of medicines.
<b>BOPTOM 105 P</b>	<b>Community Engagement and Clinical Visit (Including related practicals to the Parent course)</b>
CO1	Understand the role of health professional in community
CO2	Personality Development
<b>AEC 001 L</b>	<b>English and Communication Skills</b>
CO1	Develop ability to read, write and speak better in English language
CO2	Grow personally and professionally to develop confidence in the field of healthcare.
<b>AEC 002 L</b>	<b>Environmental Sciences</b>
CO1	Understand and define terminology commonly used in enviromental sciences
CO2	Understand the concepts of ecosystems, biodiversity and its conservation
CO3	Understand the relationship between humans and enviroment
CO4	Discuss the factors affecting the availability of natural resources, their conservation and management.
CO5	Discuss the goals, targets, challenges and global strategies for sustainable development
<b>SEMESTER II</b>	
<b>BOPTOM 106 L</b>	<b>Human Anatomy Part II</b>
CO1	Understand and demonstrate the anatomy of Reproductive system, Endocrine system, Nervous system, Sensory system and Lymphatic system with it's clinical application
<b>BOPTOM 107 L</b>	<b>Human Physiology Part II</b>
CO1	Understand the basic physiological fuctions of Special senses and Skin,.
CO2	To understand the basic mechanism, operation and regulation of different systems such as Nervous system, Endocrine system, Reproductive system and Excretory system
CO3	Ability to identify techniques to examination of the physiological funtioning of sensory and motor systems and interpret the results as normal or abnormal.
<b>BOPTOM 108 L</b>	<b>General Microbiology</b>
CO1	Understanding the Basic principles of Microbiology with General Methods for recovery, identification of pathogens, culture techniques, procedures, antibiotic testing and sterilization techniques.
CO2	Understand the applications of universal safety precautions.
CO3	Adept knowledge about the systemic bacteriology including morphology, species, lab diagnosis, isolation and identification.
CO4	Basic knowledge of pathogenic diseases and their clinical features
<b>BOPTOM 109 L</b>	<b>Basic Pathology &amp; Hematology</b>
CO1	Know the basic concepts in hematology and clinical pathology
CO2	Ability to collect blood and urine sample under guidance
CO3	Ability to perform urine experiments under guidance

<b>BOPTOM 110 L</b>	<b>Introduction to Quality and Patient Safety (Multidisciplinary / Interdisciplinary)</b>
CO1	Understand the basic concepts of Quality in Health Care System and develop skills to implement sustainable quality assurance programs in the health system.
CO2	Understand the basics of emergency care and life support skills.
CO3	Understanding of the concepts for infection prevention and control.
CO4	Knowledge on the principles of on-site disaster management and prevent harm to workers, property, the environment and the general public.
CO5	Ability to apply healthcare quality improvement and patient safety principles, concepts, and methods at the micro, meso and macro system levels.
<b>BOPTOM 111 P</b>	<b>Community Engagement and Clinical Visit (Including related practicals to the Parent course)</b>
CO1	Understand the role of health professional in community
CO2	Personality Development
<b>SEC 001 L</b>	<b>Medical Bioethics &amp; IPR</b>
CO1	Ability to recognise and understand ethical concerns in research and healthcare sector.
CO2	Adapt skills to rationally justify decisions by understanding the complexity and multi - dimensionality of medical or clinical ethical concerns.
CO3	Gain awareness about significance of patent, copyright, plagiarism and their applications in legal problems
<b>SEC 002 L</b>	<b>Human Rights &amp; Professional Values</b>
CO1	Acquire conceptual clarity and develop respect for norms and values of freedom, equality, fraternity and justice
CO2	Awareness of civil society organizations and movements promoting human rights
CO3	Understand the difference between values of human rights and their duties
<b>SEMESTER III</b>	
<b>BOPTOM 112 L</b>	<b>Physical Optics</b>
CO1	Have a better understanding about Light ,its Properties,Units and Nature.
CO2	Know the basis and application of wave optics, and lasers.
<b>BOPTOM 113 L</b>	<b>Geometrical Optics</b>
CO1	Understand the basis of ray optics.
CO2	Identify various optical elements and understand its properties.
CO3	Efficiently apply the knowledge of ray optics to describe the eye's optical behaviour
<b>BOPTOM 114 L</b>	<b>Visual Optics I/II</b>
CO1	Understand the optics of ocular elements, its effect on retinal image formation and measurement modalities.
CO2	Have a keen theoretical understanding of various aspect of vision and develop appropriate skill set for its assessment.
CO3	Identify, the different types of Refractive anomalies , its causes, and utilize appropriate clinical approaches for evaluation and management.
CO4	Describe Aberration, its effect on image formation and management options.
<b>BOPTOM 115 L</b>	<b>Ocular Diseases I</b>
CO 1	Understand anatomy & pathophysiology of ocular anterior segment & adjoining structures
CO 2	Identifying the ocular diseases of anterior segment & adjoining structures.
CO 3	Understand the diagnostic approach, differential diagnosis and management aspects of the ocular diseases.
<b>BOPTOM 116 L</b>	<b>Clinical Examinations &amp; Visual Systems</b>
CO 1	Learning of various optometric work-up, procedures, documentation and interpretation of the findings.
CO 2	Identify and differentiate various ocular function anomalies.
CO 3	Understand the working principles & implementation of various optometric tests.
<b>GEC 001 L</b>	<b>Pursuit of Inner Self Excellence (POIS)</b>
CO1	Students will become self-dependent, more debility for their study and career related matter ecisive and develop intuitive
CO2	Student's ability to present their ideas will be developed.

CO3	Enhanced communication skills, public speaking & improved Presentation ability.
CO4	Students will be able to explore their inner potential and inner ability to become a successful researcher or technician & hence become more focused.
CO5	Students will observe significant reduction in stress level.
CO6	With the development of personal attributes like Empathy, Compassion, Service, Love & brotherhood, students will serve the society and industry in better way with teamwork and thus grow professionally.

<b>GEC 002 L</b>	<b>Organizational Behavior</b>
CO1	Describe and apply motivation theories to team and organizational scenarios in order achieve a team's or an organization's goals and objectives.
CO2	Explain the effect of personality, attitudes, perceptions and attributions on their own and other's behaviors in team and organizational settings.
CO3	Explain types of teams and apply team development, team effectiveness, and group decision making models and techniques.
<b>SEMESTER IV</b>	
<b>BOPTOM 118 L</b>	<b>Optometric Optics I &amp; II</b>
CO 1	To gain theoretical and practical knowledge regarding prism, different forms of lenses, types of lens designs, lens materials, coating , tints, miscellaneous spectacles, frame material, lens properties, lens manufacturing process & frame construction.
CO 2	Knowledge of lens power measurement, lens centration - decentration and transposition
CO 3	Knowledge of trouble shooting, lens inspection, safety standards for ophthalmic lenses and various faults in lens and frames.
<b>BOPTOM 119 L</b>	<b>Ocular Diseases II &amp; Glaucoma</b>
CO 1	Understand anatomy & pathophysiology of ocular posterior segment
CO2	Identifying the ocular diseases of anterior segment
CO3	Understand the diagnostic approach, differential diagnosis and management aspects of the ocular diseases.
<b>BOPTOM 120 L</b>	<b>Dispensing Optics</b>
CO 1	Developing the ability to identify & interpret the spectacle components, prescription, interpretation and transposition.
CO 2	Knowledge of facial measurements, lens inspection, lens power verification, lens marking, safety standards for ophthalmic lenses and various faults in lens and frames.
CO 3	Understand and develop skills to follow standardization method for quality spectacle dispensing & troubleshooting complaints.
CO 4	To gain knowledge regarding availability of various types of frames & lenses.
<b>BOPTOM 121 L</b>	<b>Optometric Instrumentation</b>
CO 1	Develop theoretical knowledge of Basic and Advance optometric instruments, its Working principle, Construction, Use in clinical practice and Limitation
CO 2	Demonstrate skillful operation and handling of optometric instruments, along with interpretation of the test result obtained.
<b>BOPTOM 122 L</b>	<b>Basic &amp; Ocular Pharmacology</b>
CO 1	Understanding of basic principle of pharmacokinetics & pharmacodynamics.
CO 2	Knowledge regarding general, systemic & ocular pharmacology
CO 3	Understanding the actions, uses, adverse effects and mode of administration of drugs, especially related to eyes.
<b>AEC 003 L</b>	<b>Computers and Applications</b>
CO1	Introduction to Hardware and processing of computers and storage devices.
CO2	Adept knowledge of computer software and applications such as Microsoft office (Word, Excel and Power Point)
CO3	Application of operating systems, computer networks & internet in Health Care Settings.
<b>AEC 004 L</b>	<b>Good Clinical Laboratory Practice and Research Skills</b>
CO1	Proficiency and adept knowledge of Good Clinical Laboratory Practice (GCLP), ethical principles and guidelines to ensure patient rights and welfare in clinical research.
CO2	Understand the importance of Ethical Guidelines and Good Documentation Practices (GDP) in conducting Clinical Research.
CO3	Effectively understand the Basics of Biostatistics, Research Study Designing, Methodology, Implementation and Grant Application.

SEMESTER V	
<b>BOPTOM 124 L</b>	<b>Contact Lenses I</b>
CO 1	To gain detail knowledge regarding Rigid Gas permeable contact lens which includes, history of lens, manufacturing process, types material, material properties, lens design and lens verification process.
CO 2	To develop skill for fitting and assessing a range of contact lens design used as a mode of correction for refractive errors, irregular cornea & presbyopia
CO 3	Skilled enough to detect contact lens related complication and management, regarding contact lens
CO 4	Developing of effective communication skills to communicate with contact lens patients and providing training and guidance for contact lens wear and care, communication fellow professionals and contact lens manufacturers and suppliers
<b>BOPTOM 125 L</b>	<b>Binocular Vision I &amp; II</b>
CO 1	Evolve theoretical knowledge about Anatomical and Physiological consideration of Binocular vision.
CO 2	Understanding the Strabismic and Non-strabismic Binocular Vision anomalies.
CO3	Identify and investigate Sensory and Motor adaptations
CO 4	Able to select and perform appropriate test batteries for diagnosis and interpret the findings.
<b>BOPTOM 126 L</b>	<b>Low Vision Aids</b>
CO 1	Understanding of the terminology used to describe low vision and visual impairment, epidemiology and demography of low vision in India.
CO 2	Developing skill and knowledge to understand optics, determine magnification requirements and to prescribe, dispense and train in the use of optical, non-optical, electronic low vision task appropriate devices.
CO3	Understanding of visual rehabilitation process & legal aspects of low vision
CO 4	Establish effective communication with individuals, their family, careers and with other organizations and professionals.
<b>BOPTOM 127 L</b>	<b>Systemic Disease</b>
CO 1	Understanding of various systemic diseases that all affect the eyes
CO 2	Understanding of the ocular side effects of various drugs that are used to manage or treat systemic diseases
CO3	Understand the role of an optometrists for co management of an systemic diseases with other health care professionals
<b>DSE 001 L</b>	<b>Basics of Clinical Skill Learning</b>
CO1	Ability to Measure Vital Signs, do basic physical Examination of the patients, NG tube basics, Administration of Medicines
CO2	Understand about Asepsis, and the Cleanliness related to asepsis and on mobility of the patients
<b>DSE 002 L</b>	<b>Hospital Operation Management</b>
CO1	Understand and apply the knowledge of Medico-Legal regulations and Medical Ethics in Healthcare System.
CO2	Ability to utilize Hospital Information system in Hospital services.
CO3	Understand the operation management of Equipment's and medical records in Health Care services.

SEMESTER VI	
<b>BOPTOM 129 L</b>	<b>Contact Lenses II</b>
CO 1	To gain detail knowledge regarding Soft Contact lens which includes, history of lens, manufacturing process, types material, material properties, lens design and lens verification process.
CO 2	To develop skill for fitting and assessing a range of contact lens design used as a mode of correction for refractive errors, irregular cornea & presbyopia
CO 3	Skilled enough to detect contact lens related complication and management, regarding contact lens
CO 4	Developing of effective communication skills to communicate with contact lens patients and providing training and guidance for contact lens wear and care, communication fellow professionals and contact lens manufacturers and suppliers
<b>BOPTOM 130 L</b>	<b>Sports Vision</b>
CO 1	Describe the role of vision in sports and in information processing.
CO 2	Conduct Sports specific task analysis, identify and evaluate the visual skills use in different types of dynamic and static sports.
CO 3	Have a keen understanding about sports related injuries and protective equipment
CO 4	Able to design a sports vision training programme
<b>BOPTOM 131 L</b>	<b>Pediatric and Geriatric Optometry</b>
CO 1	Knowledge of the principal theories of childhood development, and visual development
CO 2	Ability to take a thorough geriatric history, and pediatric history which encompasses the relevant developmental, visual, medical and educational issues
CO 3	Ability to perform appropriate assessment and management of accommodative-vergence system, types of ametropia, accommodation and vergence disorders.
CO 4	Knowledge of aetiology, clinical presentation and treatment of amblyopia, comitant strabismus and commonly presenting incomitant strabismus
CO 5	Manage visual / ocular disability with appropriate optical treatments, low vision aids and referral
CO 6	Developing effective communication skills to deal with the pediatric and geriatric patients and their attendees and also recognizing the professional responsibility and need of life-long learning in geriatric and pediatric eye care.
<b>BOPTOM 132 L</b>	<b>Occupational Optometry</b>
CO 1	Describe Occupational health, hygiene and safety and be aware of laws and policy forming bodies.
CO 2	Identify task specific visual demands in various occupation and use suitable evaluation procedures.
CO 3	Identify occupational hazards and means of minimizing and managing them.
CO 4	Have a better understanding about visual standards and execution of screening programmes.