

PROGRAM OUTCOME (POs)	
Course Code	B.Sc. MEDICAL LABORATORY TECHNOLOGY
PO1	Skilled Lab Technologists - An ability to apply knowledge of healthcare technology (including clinical subjects, investigations/ Procedures, handling instruments)
PO2	Critical Thinker – To apply professional judgment and rational thinking in decision-making
PO3	Problem solver – Correlation of professional knowledge applied to current clinical or healthcare practices.
PO4	Professional ethics – To adopt and apply code of ethics prescribed by professional bodies in professional and social context. Maintain appropriate boundaries with patients and care givers and maintain confidentiality.
PO5	Communication skills – To communicate effectively with the patients, care givers and other healthcare professional for addressing patient related issues and to deliver and information
PO6	Leadership/ Team work - Ability to function on multi-disciplinary teams and take initiative and motivate and help others
PO 7	Holistic development - Development of intellectual mental, Physical, Emotional & Social abilities, so as to be capable of facing the demands & challenges of every day life.
PO8	Lifelong learning - To develop continuous learning attitude in context of research, advances in clinical practices and to inculcate professionalism and evidence based practices

Course Outcomes (COs)	
Course Code	B.Sc. MEDICAL LABORATORY TECHNOLOGY
SEMESTER I	
BMLT 101 L	Human Anatomy Part I
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
BMLT 102 L	Human Physiology Part I
CO1	Describe basic physiological principles involved in normal functioning 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.
BMLT 103 L	General Biochemistry & Nutrition
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.

BMLT 104 L	Introduction to National Health Care System (Multidisciplinary/Interdisciplinary)
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.
BMLT 105 P	Community Engagement and Clinical Visit (Including related practicals to the Parent course)
CO1	Understand the role of health professional in community
CO2	Personality Development
AEC 001 L	English and Communication Skills
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.
AEC 002 L	Environmental Sciences
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

SEMESTER II	
BMLT 106 L	Human Anatomy Part II
CO1	Understand and demonstrate the anatomy of Reproductive system, Endocrine system, Nervous system, Sensory system and Lymphatic system with it's clinical application
BMLT 107 L	Human Physiology Part II
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.
BMLT 108 L	General Microbiology
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
BMLT 109 L	Basic Pathology & Hematology
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
BMLT 110 L	Introduction to Quality and Patient Safety (Multidisciplinary / Interdisciplinary)
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.
BMLT 111 P	Community Engagement and Clinical Visit (Including related practicals to the Parent course)
CO1	Understand the role of health professional in community
CO2	Personality Development
SEC 001 L	Medical Bioethics & IPR
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
SEC 002 L	Human Rights & Professional Values
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

SEMESTER III	
BMLT 112 L	Fundamental of Biochemistry - I
CO1	Knowledge about basic biochemical metabolism of Carbohydrates, Amino Acids, Iron and Hemoglobin
CO2	Acquaint to Responsibilities of a Medical Laboratory Technologist and work collaboratively in laboratory settings and multidisciplinary teams.
CO3	Gain proficiency in collection, handling and processing analysis of blood, urine, and other body fluids for clinical diagnostics.
CO4	Develop practical skills in various basic biochemical techniques and instrumentations.
BMLT 113 L	Fundamental of Microbiology - I
CO1	Introduction to basic laboratory identification and classification of medically significant isolates in mycology and parasitology.
CO2	Theoretical as well as practical training in Immunology and Serology so that they can participate in good patient care and prevention of infectious diseases in the community.
CO3	Acquaintation to Laboratory safety, specimen selection and processing, isolation methods and immunologic diagnosis.
BMLT 114 L	Hematology and Clinical Pathology - I
CO1	Examine Urine Samples and Interpret reports
CO2	Understanding of Histopathology techniques and procedure and Blood grouping
CO3	Basics of Universal Safety Precautions and Biological Waste Management
GEC 001 L	Pursuit of Inner Self Excellence (POIS)
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.
GEC 002 L	Organizational Behavior
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.

SEMESTER IV

BMLT 116 L	Fundamental of Biochemistry - II
CO1	Develop practical skills in various techniques and instrumentations used in Biochemistry laboratory.
CO2	Gain proficiency in lab examination of blood, urine, and other body fluids for clinical diagnosis.
CO3	Understand the concept of internal and external quality control in diagnostic Biochemistry laboratory.
CO4	Understand the Basics of Acid Base balance and role of Buffer system.
BMLT 117 L	Fundamental of Microbiology - II
CO1	Understand the epidemiology and pathogenesis of mycosis, parasitic and infections
CO2	Theoretical as well as practical training in Systemic Bacteriology and Parasitology so that they can participate in good patient care and prevention of infectious diseases in the community.
CO3	Introduction to basic methods used in the field of diagnostic Microbiology
BMLT 118 L	Hematology and Clinical Pathology - II
CO1	Ability to handle Body Fluids specimen, processing and interpretation
CO2	Understanding of Histopathology techniques and procedure and Blood grouping
CO3	Skills to perform the techniques and staining procedure in histopathology and cytology
AEC 003 L	Computers and Applications
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.
AEC 004 L	Good Clinical Laboratory Practice and Research Skills
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	
BMLT 120 L	Clinical Biochemistry - I
CO1	Interpret the biochemistry reports of biochemical markers such as Diabetic Profile, Liver Function Tests, Renal Function Tests and Cardiac Markers in clinical diagnosis.
CO2	Gain adept knowledge about the significance and applications of automation and advanced diagnostic techniques used in Biochemistry laboratory.
CO3	Understand and apply biochemical knowledge in the development and use of diagnostic tools and techniques in medical laboratory technology.
BMLT 121 L	Medical Microbiology - I
CO1	Theoretical as well as practical training in Mycology so that they can participate in good patient care and prevention of infectious diseases in the community.
CO2	Introduction to advanced methods used in the field of diagnostic Microbiology
BMLT 122 L	Blood Bank and General Pathology -I
CO1	The student should be able to apply the basic knowledge of hematology, histopathology, and clinical pathology in laboratory
CO2	Basic knowledge of techniques in blood banking like components and FDA regulations
CO3	Adept knowledge and basic skills of working in a pathology lab and blood bank
DSE 001 L	Basics of Clinical Skill Learning
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
DSE 002 L	Hospital Operation Management
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	
BMLT 124 L	Clinical Biochemistry - II
CO1	Interpret the biochemistry reports of various biochemical markers such as Lipid Profile, Iron Profile, Bone Profile, Thyroid Profile and Reproductive Profile in clinical diagnosis.
CO2	Gain adept knowledge about the significance and applications of advanced diagnostic techniques used in Biochemistry laboratory including Dry Chemistry.
CO3	Develop critical thinking and problem-solving skills relevant to biochemistry research and clinical practice.
BMLT 125 L	Medical Microbiology - II
CO1	Theoretical as well as practical training in Virology so that they can participate in good patient care and prevention of infectious diseases in the community.
CO2	Introduction to advanced Molecular biology techniques used in the field of diagnostic Microbiology
CO3	Introduction to NABL Accreditation process with quality control and SOP writing
BMLT 126 L	Blood Bank and General Pathology -II
CO1	Ability to apply the skills of hematology, histopathology, and cytology in clinical laboratory
CO2	Well versed with the techniques in blood banking like components and FDA regulations
CO3	Proficient in knowledge and basic skills of working in a pathology lab and blood bank