PARAMEDICAL SCIENCES
B.Sc. MLT

PROGRAMME OUTCOME	COURSE NAME	COURSE OUTCOME
Upon successful completion of the degree in Medical Laboratory Technician, the student should be able to: ❖ Perform routine clinical laboratory procedures within acceptable quality control parameters in Hematology, Biochemistry, Immunohematology, Cytopathology, Histopathology, Blood transfusion and Microbiology under the general supervision of a Clinical Laboratory Scientist or Pathologist. ❖ The student will be able to explain the basic nature of disease processes from the standpoint of causation, epidemiology, natural history, and the structural and functional abnormalities that result. ❖ Demonstrate technical skills, social behavior, and professional awareness incumbent upon a laboratory technician. ❖ Effect a transition of information and experiences learned in the MLT program to employment situations and performance on the written examinations conducted by the Swami Vivekanand Subharti University. ❖ Apply systematized problem solving techniques to identify and correct procedural errors, identify instrument malfunctions and seek proper supervisory assistance, and verify the accuracy of laboratory results	**1. General pathology**	Demonstrate an understanding of essential basic pathological processes including cell death and injury, inflammation, thrombosis and neoplasia.
	2. General Microbiology and Immunology	At the end of the course students should know the prokaryotic cell structure, develop basic skill in aseptic techniques, sterilization technique. Perform various staining techniques, Cultivate bacteria with different cultivation technique. They know the concepts of immune system and they determine various serological parameters and procedures, understand immune responses or to suppress unwanted immune responses such as might be required in hypersensitivity reactions.
	3. General Biochemistry	At the end of the course the student should know the structures and functions of biomolecules, their relations that form the basis of what we understand to be living organisms and know the experiment, research related to them.
	4. Anatomy & Physiology	At the end of the course student should know in depth Anatomy and physiology of the nervous, musculoskeletal, respiratory, and cardiovascular, excretory, endocrine and reproductive systems from a regional perspective.
	5. Computational skills & Biostatistics	At the end of the course student should demonstrate computational skills and understanding of the central concepts of modern statistical theory and their probabilistic foundation.
	6. English and Soft skills	Liaise with native speakers of English in the medical profession, converse confidently with the general public. Produce clearer written documents, able to empathize and/or sympathize with the difficult situations faced by others, communicate well with patients and colleagues is vital.

obtained. ❖ Operate and maintain laboratory equipment, utilizing appropriate quality control and safety procedures.Recognize and participate in activities which will provide current knowledge and upgrading of skills in laboratory medicine.	**7. Histopathology and Cytopathology**	Able to explain normal and abnormal human cell, tissue and organ structure; by using different Cytological & histopathological procedures. Outline safe laboratory practices as well as the professional and ethical responsibilities associated with working in a clinical histology or cytology laboratory
	8. Bacteriology, Virology and Mycology	The students should able to identify common pathogenic bacterial, Viral and fungal agents and the diseases that they cause, their general and specific mechanisms by which bacteria causes disease their epidemiology of infectious agents including how infectious diseases are transmitted and explain interventions employed to prevent Bacterial, viral and fungal diseases including infection control measure and vaccines.
	9. Analytical Biochemistry	At the end of the course student should know the principle, biochemistry and pathophysiology associated with tests performed in a clinical biochemistry laboratory and analytical instruments.
	10. Molecular Cell Biology	At the end of the course students should explain genome organization in higher organisms, kinetic classes of DNA and Gene families, steps involved in recombinant DNA technology. Demonstrate practical skills used in molecular biotechnology such as PCR and molecular cloning and obtain and evaluate information on a current topic in molecular biology and communicate this analysis in writing.
	11. Medical Biotechnology	The student will be able to develop understanding of the patterns of inheritance and clinical manifestations of genetic diseases; chromosomes, chromosomal abnormalities, and the clinical features of common chromosomal disorders; population genetics; inborn errors of metabolism; and inherited cancer syndromes, genetic testing and screening.

	12. Parasitology and Clinical Microbiology	The students should able to identify common pathogenic parasitic agents and the diseases that they cause, their general and specific mechanisms by which parasite causes disease. able to perform diagnostic skills by using basic and advanced diagnostic exercises using microscopy etc, apply appropriate microbiology laboratory techniques, methodologies, instruments and equipment in accordance with current laboratory safety protocol. And calculate, record, and report clinical microbiology results/reports according to clinical laboratory protocol.
	13. Clinical Biochemistry	Professionally apply biochemical tests to health problems and explain their clinical significance in the assessment of lipid, purine and carbohydrate metabolism, in the assessment of kidney, liver, heart function, acid/base balance and know the quality systems and concepts of measurement of uncertainty.
	14. Medical and Surgical conditions	To make a diagnosis when symptoms, abnormalities on physical examination, or other evidence suggests, but does not prove, that a disease may be present . To determine the extent of disease progression or severity and the likelihood of recovery or risk of future adverse health outcomes (e.g., cancer relapse). To allow accurate and targeted treatment selection tailored to individual needs.
	15. Advance Laboratory Techniques	At the end of the course the students should know a wide range of advanced experimental techniques, laboratory exercises which have significance in industrial, Hospitals and everyday Laboratory applications, scientific method and mathematical analysis have skills in maintaining data & report writing.