

**College of Paramedical Sciences  
Teerthanker Mahaveer University**

**M.Sc. (Medical Laboratory Techniques)**

**Programme Outcome**

<b>PO-1</b>	:	Understanding ways of functioning effectively as an individual independently and as a member in diverse team in multidisciplinary settings (Attitude).
<b>PO-2</b>	:	Understanding requirements of continuous education as a function of growth and maintenance of professional competence (Lifelong learning).
<b>PO-3</b>	:	Understanding environmental consciousness and societal concerns in achieving sustainable development (Environment and Sustainability).
<b>PO-4</b>	:	Applying computer skills in health care system and taking entrepreneurial decisions (Entrepreneurship).
<b>PO-5</b>	:	Applying knowledge to assess societal, health, safety and legal issues related to Professional practice (Social interaction & effective citizenship).
<b>PO-6</b>	:	Applying systematized problem solving techniques to identify and correct procedural errors to verify the accuracy of laboratory result obtained.( Problem analysis and solving).
<b>PO-7</b>	:	Applying appropriate techniques, resources and tools with an understanding of limitations (Technology savvy/usage).
<b>PO-8</b>	:	Developing the ability towards ethical as well as critical thinking. (Critical thinking)
<b>PO-9</b>	:	Executing professional conduct and interpersonal communicational skills effectively with society at large (Communication).

**Programme Specific Outcome**

<b>PSO-1</b>	:	Understanding and remembering areas like Blood banking, Blood Sample Matching, Hematology,
<b>PSO-2</b>	:	Applying techniques for collection and preservation of biological Samples.
<b>PSO-3</b>	:	Applying the fundamentals of research process to complete and present research studies that enrich the field of physical therapy.
<b>PSO-4</b>	:	Analysing proficient operation of automated haematology instruments, including instrument maintenance and QC.
<b>PSO-5</b>	:	Evaluating the results and explaining underlying principle in each investigation.

**Course Outcomes**

<b>MMLT-CH-101</b>	<b>CO-1</b>	Understanding the concept of blood and haemopoiesis.
	<b>CO-2</b>	Understanding stages of cell maturation and development
	<b>CO-3</b>	Applying the specific technique for sample collection, its preservation & biomedical waste management.
	<b>CO-4</b>	Applying various methods for hemoglobin estimation.
	<b>CO-5</b>	Applying different test for determination of bleeding time and clot retraction.

<b>MMLT-CH-102</b>	<b>CO-1</b>	Understanding the concepts of antigen and antibodies
	<b>CO-2</b>	Understanding the concepts of blood grouping and blood collection
	<b>CO-3</b>	Applying different methods of quality control involved in blood transfusion services.
	<b>CO-4</b>	Analyzing laboratory investigations of new born
	<b>CO-5</b>	Evaluating compatibility testing and different transfusion transmitted infectious markers
<b>MMLT-CH-103</b>	<b>CO-1</b>	Understanding the basic aspects of immunity, antigens and antibody.
	<b>CO-2</b>	Understanding the concept of MHC
	<b>CO-3</b>	Applying various serological techniques and their utility in laboratory diagnosis of human diseases.
	<b>CO-4</b>	Analyzing various serological reactions
	<b>CO-5</b>	Evaluating laboratory tests for of antigen – antibody reaction,
<b>MMLT-CH-201</b>	<b>CO-1</b>	Understanding hereditary disorders of hemoglobin
	<b>CO-2</b>	Applying various techniques for diagnosis of anemia
	<b>CO-3</b>	Analyzing hereditary disorders of Hemoglobin
	<b>CO-4</b>	Analyzing hemoparasites and their identification
	<b>CO-5</b>	Evaluating common hematologic abnormalities.
<b>MMLT-CH-202</b>	<b>CO-1</b>	Applying various methods for preparation of reagents used in blood banking
	<b>CO-2</b>	Applying techniques for apherisis
	<b>CO-3</b>	Applying SOPs for quality monitoring test, documentation & auditing
	<b>CO-4</b>	Analyzing blood transfusion techniques and its types
	<b>CO-5</b>	Evaluating the legal aspects for operation of blood bank
<b>MMLT-CH-203</b>	<b>CO-1</b>	Understanding research methodology and basic statistical concepts
	<b>CO-2</b>	Applying perspectives for training development related to organizational setups
	<b>CO-3</b>	Applying statistical methods for representation of data
	<b>CO-4</b>	Analyzing data on the basis of different statistical methods
	<b>CO-5</b>	Evaluating data on the basis of statistical analysis
	<b>CO-6</b>	Evaluating quality management system in diagnostic laboratory
<b>MMLT-CH-204</b>	<b>CO-1</b>	Understanding ethical principles and accreditation for clinical laboratories
	<b>CO-2</b>	Applying all general & clinical safety measures to reduce the risk of infection.
	<b>CO-3</b>	Applying methods for interpretation and release of examination results for quality assurance
	<b>CO-4</b>	Evaluating the validating, instrument calibration & importance of medical audit (NABL) to enhance the quality of laboratory.
	<b>CO-5</b>	Evaluating pre & post exposure guidelines of some infectious diseases
<b>MMLT-CH-301</b>	<b>CO-1</b>	Applying basic principles for diagnosis of hematopoietic- Lymphoid neoplasm.
	<b>CO-2</b>	Analyzing various hematological disorders
	<b>CO-3</b>	Analyzing the complications of hematopoietic neoplasm
	<b>CO-4</b>	Evaluation of molecular and cellular findings
	<b>CO-5</b>	Evaluating protein abnormalities in Plasma cell dyscrasis
<b>MMLT-CH-302</b>	<b>CO-1</b>	Applying various cytogenetic and molecular diagnostic techniques
	<b>CO-2</b>	Applying various techniques for purification and separation of nucleic

		acids
	<b>CO-3</b>	Analyzing banding techniques and karyotyping
	<b>CO-4</b>	Analyzing chromosomal abnormalities
	<b>CO-5</b>	Evaluating different types of body fluids
<b>MMLT-CH-303</b>	<b>CO-1</b>	Applying the knowledge of medical terminology
	<b>CO-2</b>	Applying information about disease etiology and development regarding prevention and wellness
	<b>CO-3</b>	Analyzing the etiological factors that are known to be involved malfunctioning of the normal process.
	<b>CO-4</b>	Analyzing the normal process that are foundation material for topics in general pathology
	<b>CO-5</b>	Evaluating the clinical findings