

## SCOPE OF PRACTICE - MEDICAL LABORATORY TECHNOLOGY

### **Introduction:**

Medical Laboratory Technology (MLT) is an essential allied health discipline that supports clinical decision-making through accurate, reliable, and timely laboratory diagnostics. Medical Laboratory Professionals (MLPs) are non-clinical healthcare practitioners who perform laboratory investigations on biological specimens in accordance with approved standards, protocols, and quality systems. Their role is central to ensuring quality laboratory services, patient safety, and effective healthcare delivery.

This document defines the **Scope of Practice of professionals educated and trained in MLT**, outlining the roles, responsibilities, competencies, and professional boundaries of MLT personnel at various qualification levels. The scope is structured according to educational credentials, training standards, experience, and it applies to Medical Laboratory Assistants, Technicians, Associate Medical Laboratory Technologists, Medical Laboratory Technologists, Specialized Medical Laboratory Technologists, and Medical Laboratory Scientists

The scope of practice described herein is designed to ensure standardized, ethical, and competency-based laboratory services in compliance with national regulatory frameworks. It emphasizes adherence to approved Standard Operating Procedures (SOPs), quality control and quality assurance systems, biosafety practices, and accreditation requirements. This document also clarifies professional limitations, reporting authority, supervisory roles, academic responsibilities, and eligibility for independent laboratory operations, in accordance with approved regulatory and accreditation standards.

The scope of practice outlined herein shall be binding and enforceable, ensuring standardized laboratory services, patient safety, quality assurance, and compliance with national regulatory, accreditation, and ethical requirements.


## SCOPE OF PRACTICE OF MEDICAL LABORATORY PROFESSIONALS

### 1. MEDICAL LABORATORY ASSISTANT

**ELIGIBILITY:** SSC (Science) with a 1-year Certificate as Medical Laboratory Assistant from an AHPC Accredited Institute

**SCOPE:**

- a. The AHPC registration is mandatory.
- b. To assist the laboratory technician.
- c. To perform all routine cleanliness of the lab working area and equipment daily.
- d. Sample preparation, including sorting out, centrifugation, etc., for routine lab work
- e. Sorting out samples having pre-analytical errors to avoid wastage of resources.
- f. To assist in record keeping and maintenance of the laboratory.
- g. To assist in coordination activities between the lab technician and management.
- h. To ensure patient compliance.
- i. Can be placed as a phlebotomist/receptionist if eligible based on expertise (training certificate).
- j. To assist in inventory management via the lab store.
- k. To maintain sample storage for reassessment and record.
- l. To manage sample handling and transport if required.
- m. To assist in reagent preparation, data management, and quality assurance activities, waste management, and stock management.
- n. This scope of practice shall apply exclusively to existing certificate holders. No institution is authorized to initiate or offer this program. Furthermore, it is hereby advised that any institution currently offering the one-year certificate program must ensure its discontinuation no later than December 2030.

### 2. MEDICAL LABORATORY TECHNICIAN

**ELIGIBILITY:** 02 years diploma/HSSC in MLT from any recognized institute having AHPC accreditation. IBCC equivalence is mandatory if required.

**SCOPE:**

- a. The AHPC registration is mandatory
- b. Assist a medical laboratory technologist.



- c. Perform all routine examinations and also special examinations after five years of experience.
- d. Responsible for routine daily maintenance, cleanliness, and inventory control.
- e. To ensure patient compliance.
- f. To prepare all lab reagents, samples, if required, and other chemicals need preparation.
- g. To run quality controls and maintain record.
- h. Maintain record of all lab activities.
- i. Can initiate incident report.
- j. Can act as a phlebotomist if required.
- k. Supervise daily maintenance and cleanliness of analyzers and equipment.
- l. Maintain daily logs and troubleshoot.
- m. Supervise junior technical staff.
- n. Supervise inventory and storage activities of the lab daily.
- o. Ensure waste management and disposal.
- p. Apply relevant Standard Operating Procedure (SOPs) and Work instructions as needed.


### 3. ASSOCIATE MEDICAL LABORATORY TECHNOLOGIST

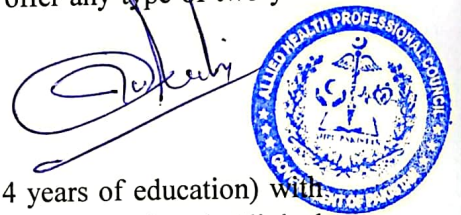
**ELIGIBILITY:** B.Sc. 02 years in MLT from any recognized institute having AHPC accreditation. HEC equivalence is mandatory if required.

#### SCOPE:

- a. The AHPC registration is mandatory
- b. Assist the medical laboratory technologist.
- c. Can act as assistant lab Manager/, assistant Quality Control (QC) manager/assistant Human Resource (HR) manager if required.
- d. Manage human resources in the lab.
- e. Perform all specialized analyses if required.
- f. Ensure smooth lab work flow.
- g. To perform QC and Quality Assurance (QA) to ensure total quality management in the lab.
- h. Perform periodic performance maintenance activities.
- i. Manage accreditation and certification activities in the lab.
- j. Coordinate technical training of lab staff.
- k. Coordinate Career and Technical Education (CTE) activities, including workshops, seminars, hands-on training, and demonstrations.
- l. Manage stocks, inventory, human resources, waste disposal, workflow data and management, and information systems, etc.
- m. Can issue reports of routine analysis without clinical assessment.
- n. Prepare and implement all SOPs and work instructions as needed.
- o. Coordinate with lab management, hospital management, and clinical faculties as needed.
- p. Perform all purchase and procurement-related activities.
- q. This scope of practice shall exclusively apply to existing B.Sc. MLT degree holders (2-year degree). NO institution is authorized to initiate or offer any type of two-year degree program.

### 4. MEDICAL LABORATORY TECHNOLOGIST

**ELIGIBILITY:** BS MLT (16 years of education)/BSc MLT (14 years of education) with MSc in MLT/ Histopathology/ Cytopathology/ Hematology/ Clinical Chemistry and Biochemistry/ Medical Microbiology/ Medical Virology/ Medical Molecular Biology/ Biotechnology or relevant education in the field of MLT from any recognized institute having AHPC accreditation. Higher Education Commission (HEC) equivalence is mandatory if required.



## SCOPE:

- The AHPC registration is mandatory
- Assist laboratory management.
- Can act as Assistant laboratory Manager, / Assistant QC manager, / Assistant HR manager.
- Manage human resources in the lab.
- Perform all specialized analysis if required.
- Ensure smooth lab work flow.
- Perform QC and QA to ensure total quality management in the lab.
- Perform periodic performance maintenance activities.
- Manage accreditation and certification activities in the lab (ISO/CAP/JCIA/Health Care commissions).
- Manage technical training of lab staff.
- Arrange CTE activities, including workshops, seminars, hands-on training, and demonstrations.
- Arrange advanced, updated technical training in the lab.
- Manage stocks, inventory, human resources, waste disposal, workflow, data, management, Business development, and information systems, etc.
- Can issue reports without clinical assessment.
- Can establish a Basic lab testing facility, independent Blood Bank, and COLLECTION POINT with limited test facilities Except Cytopathology, Immunohistochemistry, Histo-pathological, and Bone Marrow reports as prescribed by the AHPC (M. Phil in any relevant fields of MLT is required).
- Can establish a highly equipped indigenous laboratory facility with all routine and special analytical facilities with the relevant reporting authority. (A Ph.D. in any of the relevant fields of MLT is required)
- Prepare and implement all Policies, SOP's, and work instructions as needed.
- Monitor all accreditations and certifications relevant to diagnostic labs.
- Coordinate with lab management, hospital management, and clinical faculties as needed.
- Perform all purchase and procurement-related activities.
- Will act as discipline in charge in Classroom Management Teams (CMTs).
- Teaching undergraduate students.
- Assistance in the development of curriculum and course materials.
- Conducting assessments and examinations.
- Assisting higher faculty members in mentoring and advising students.


- Assistance in conducting collaborative research in the relevant field of Allied Health Sciences.
- Publishing in peer-reviewed journals and presenting at conferences.
- Assisting in accreditation processes.
- Contributing to policy-making within the department.
- Organizing workshops, seminars, and outreach programs.
- Engaging in continuing education to stay updated with advances in Allied Health Science (AHS).
- Attending workshops, seminars, and training programs.
- Can conduct an ISO-9001 and ISO-15189 Audit after relevant certifications and training

## 5. SPECIALISED MEDICAL LABORATORY TECHNOLOGIST

### ELIGIBILITY CRITERIA SCOPE OF PRACTICE FOR MEDICAL LABORATORY

#### Technologists having higher Qualifications (M. Phil & PhD)

**ELIGIBILITY:** **Basic qualification:** BS MLT (16 years of education)/BSc MLT (14 years of education) with MSc in MLT/ Histopathology/ Cytopathology/ Hematology/ Clinical Chemistry and Biochemistry/ Medical Microbiology/ Medical Virology/ Medical Molecular Biology/ Biotechnology or relevant qualification with 05 years relevant experience in the field of MLT.

AND

**Higher qualification:** MS / M. Phil in MLT/MLS/Histopathology/ Cytopathology/ Hematology/ Clinical Chemistry and Biochemistry/ Medical Microbiology/ Medical Virology/ Medical Molecular Biology/ Biotechnology or relevant qualification in the field of MLT.

Registration; - AHPC registration is mandatory

- Will act as laboratory manager/section supervisor
- Lead specific units or sections within the respective department



- Provide advanced clinical supervision and mentorship in training labs or affiliated hospitals
- Participating in clinical training of students, new technologists, and technicians.
- Lead case discussions, clinical rounds, and evidence-based practice sessions.
- Contribute to clinical guideline development and protocol improvement.
- Maintain licensure or certification for clinical practice, where required.
- Serve as coordinator or head of specific academic programs or committees.
- Participate in strategic planning and policy-making within the department or school.
- Assist in accreditation, quality assurance, and academic audits.
- Engage in national and international collaborations.
- Contribute to community health initiatives or interdisciplinary projects.
- Develop, update, and implement SOPs and protocols
- Providing patient care or clinical services (if the institution permits faculty practice).
- Staying current with clinical best practices and ensuring evidence-based education.
- Ensure compliance with laboratory accreditation standards (e.g., ISO 15189, CAP, NEQAP ETC) specific to their specialty
- Oversee comprehensive quality assurance programs for respective specialty.
- Reviews and co-signs with Chief/Consultant.
- Can establish an independent lab facility, independent or hospital blood bank, and COLLECTION POINT with limited test facilities except Cytopathology, Flowcytometry, Immunohistochemistry, Histopathological, and Bone Marrow reports as prescribed by the AHPC.
- Develop, update, and implement Standard Operating Procedures (SOPs) and protocols
- Will act as discipline in charge/course coordinator
- Teaching undergraduate and/or postgraduate students.
- Developing curriculum and course materials.
- Supervising student projects, clinical practice, internships, and thesis.
- Conducting assessments and examinations.
- Mentoring and advising students.
- Conducting independent and collaborative research in the relevant field of Allied Health Sciences.
- Publishing in peer-reviewed journals and presenting at conferences.
- Applying for research grants and funding.
- Guiding student and junior faculty research projects.
- Participating in departmental meetings, committees, and curriculum development.
- Assisting in accreditation processes.
- Contributing to policy-making within the department.
- Organizing workshops, seminars, and outreach programs.
- Engaging in continuing education to stay updated with advances in AHS.
- Attending workshops, seminars, and training programs.
- Participated in clinical trials and can eventually become a Principal Investigator (PI) or lead a clinical research study with relevant experiences and training required.

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## 6. MEDICAL LABORATORY SCIENTIST

**Qualification:** **Basic qualification:** BS MLT (16 years of education)/BSc MLT (14 years of education) with MSc in MLT/ Histopathology/ Cytopathology/ Hematology/ Clinical Chemistry and Biochemistry/ Medical Microbiology/ Medical Virology/ Medical Molecular Biology/ Biotechnology or relevant Qualification in the field of MLT.

**Higher Qualification** Ph.D. (MLT/MLS/including BS MLT (16 years of education)/BSc MLT (14 years of education) with MSc in MLT/ Histopathology/ Cytopathology/ Hematology/ Clinical Chemistry and Biochemistry/ Medical Microbiology/ Medical Virology/ Medical Molecular Biology/ Biotechnology or any relevant Qualification in the field of MLT.

### SCOPE OF PRACTICE:

- Can act as HOD (Technical domain).
- Supervise day-to-day operations of clinical laboratories.
- Oversee compliance with quality control, safety, and accreditation standards.
- Ensure implementation of **Good Clinical Laboratory Practices (GCLP)**.
- Lead and train junior technologists, technicians, and interns.
- Design and interpret complex laboratory tests in Clinical Chemistry, Hematology, Microbiology, Molecular Diagnostics, etc.
- Correlate lab results with clinical conditions.
- Innovate and validate new diagnostic methods.
- Participate in institutional policy-making related to lab services.
- Contribute to national or regional guidelines for laboratory operations.
- Lead quality improvement initiatives.
- Prepare labs for **ISO 15189, CAP**, or national accreditation.
- Conduct internal audits and proficiency testing.
- Collaborate with clinicians, Head of Departments, Managing Director, Pathologists, Researchers, and Public Health authorities.
- Provide expert opinion in clinical case discussions and diagnostic dilemmas
- Develop and validate new diagnostic methodologies and assays in the clinical lab.
- Lead national/international research projects in laboratory diagnostics.
- Final authority on issuing and amending reports and their relevant specialty.
- Can establish a highly equipped indigenous laboratory facility with all routine and special analytical facilities with the relevant reporting authority.
- Will act as Dean / HOD / Principal of any AHPC-accredited institute
- Teach undergraduate and postgraduate courses in the respective discipline.
- Design, update, and lead curriculum development and course planning.
- Supervise Master's and Ph.D. students in research and dissertations.



- Evaluate students through practical's, assessments, viva voce, etc.
- Ensure quality assurance in teaching methodologies and academic delivery.
- Conduct high-quality, independent, and collaborative research.
- Publish in reputable national and international peer-reviewed journals.
- Secure and manage research grants and projects.
- Present research findings at conferences and symposia.
- Guide research teams, including junior faculty and students.
- Serve as coordinator or head of specific academic programs or committees.
- Participate in strategic planning and policy-making within the department.
- Mentor junior faculty (e.g., Assistant Professors and Lecturers).
- Assist in accreditation, quality assurance, and academic audits.
- Organize and lead workshops, seminars, conferences, or public outreach initiatives.
- Engage in national and international collaborations.
- Serve as peer reviewer, editorial board member, or conference organizer.
- Attend faculty development programs, pedagogical training, and clinical workshops.
- Contribute to community health initiatives or interdisciplinary projects.
- Participated in clinical trials and can eventually become a Principal Investigator (PI) or lead a clinical research study with relevant experiences and training required.


#### LIMITATIONS AND SUMMARY

Medical Laboratory Professionals (MLPs) are non-clinical healthcare practitioners who specialize in laboratory diagnostics. They:

- Do not prescribe medications or diagnostic tests
- Do not perform or report histopathological examinations or bone marrow procedures
- Focus exclusively on laboratory-based analysis and support for clinical decision-making

#### 7. AUTHORIZATION FOR PRIVATE LABORATORY AND BLOOD BANK OPERATIONS

MLPs with higher academic credentials may operate private laboratories under the following conditions:

##### i. Stat Labs / Collection Points/Blood bank

- Independently operatable by Registered Medical Lab Technologist (having Five-years of experience) with MPhil / MS degree in relevant fields of MLT
- Must possess a basic degree in Medical Laboratory Technology.

**ii. Full- Range Clinical Laboratories**

- Operable by PhD holders in relevant fields
- Must possess a basic degree in Medical Laboratory Technology.
- Specialized procedures (e.g., histopathology, bone marrow) must be conducted in the presence of a qualified Hematologist / Histopathologist.