



REPUBLIC OF KENYA
MINISTRY OF HEALTH

KENYA MEDICAL LABORATORY TECHNICIANS AND TECHNOLOGISTS BOARD

Kenya Medical Laboratory Technicians and Technologists Board (KMLTTB) internship and probation policy

Pursuant to the Medical Laboratory Technicians and Technologists Act, CAP 253 A Laws of Kenya.

KMLTTB QUALITY ASSURANCE SERVICES

	Kenya Medical Laboratory Technicians and Technologists Board (KMLTTB) internship and probation policy.		DOCUMENT CONTROL Serial: KMLTTB/INTERN/PROBE/PCYL/01 Version 001 Date: 2 ND SEPTEMBER,2026
	OWNERSHIP	REGISTRAR	



The Kenya Medical Laboratory Technicians and Technologists Board (KMLTTB) is a statutory body established under Section 3(2) of the Medical Laboratory Technicians and Technologists (MLTT) Act, 1999 (CAP 253A). Our mandate includes the general supervision and control over training, business, practice, and employment of medical laboratory technicians and technologists, as well as validation of in-vitro diagnostics (IVD) under Legal Notice No. 113 of 2011. The Board recognises that corruption in the health sector directly threatens patient safety and undermines public trust in the regulation of laboratory medicine.

Our Vision: “That the Health of every Kenyan will be fully protected through effective regulation of the practice of laboratory medicine.”

Our Mission: “To Exercise General Control and Supervision over training, business, employment and practice of Laboratory Medicine and Advise the Government on all related matters.”

Our Core Values: Integrity; Selfless service; Innovation and open-mindedness; Sense of belonging; Pride in what we do.

Kenya Medical Laboratory Technicians and Technologists Board (KMLTTB) internship and probation policy for medical laboratory graduates requires a mandatory 12-month supervised clinical placement. It covers core Medical laboratory rotations, quality control mastery, and ethical compliance.

Policy Framework: Internship & Probation

A. Objectives and Scope

1. **Mandatory Training:** Bridge theoretical college knowledge with safe, hands-on diagnostic performance.
2. **Legal Compliance:** Require a temporary internship license prior to entering any facility.
3. **Supervised Practice:** Ensure direct oversight by an approved Medical laboratory superintendent or senior Medical laboratory technologist.

B. Internship Structure (12 Months)

1. **Duration:** 52 weeks total, divided into mandatory rotational blocks across major hospital diagnostic departments.
2. **Core Rotations:**
 - a. Clinical Chemistry- (4 weeks)
 - b. Medical Microbiology (Bacteriology)-(4 weeks)
 - c. Mycology - (4 weeks)
 - d. Hematology-(4 weeks)
 - e. Blood Transfusion -(4 weeks)
 - f. Histopathology-(5 weeks)
 - g. Cytology -(5 weeks)
 - h. Parasitology-(5 weeks)
 - i. Medical Entomology-(2 weeks)
 - j. Quality Assurance-(2 weeks)



- k. Medical Laboratory Management-(2 weeks)
- l. Biosafety and Biosecurity(2 weeks)
- m. Molecular Diagnostics=(4 weeks)
- n. Virology and Immunology-(4 weeks)

C. Probation Structure (12 Months Pre-Licensure)

1. **Supervised Entry:** Conducted immediately before sitting board examinations and receiving a full practicing license for persons trained outside Kenya and their professional qualifications are deemed equivalent to the one prescribed by KMLTTB approved curriculum.
2. **Performance Monitoring:** Monthly appraisals focusing on independent turnaround time, error minimization, and multidisciplinary team integration.

KMLTTB Probation Logbook & Competency Checklist

Section A: Personal & Facility Information

1. **Intern Details:** Full Name, Index/Registration Number, Training Institution.
2. **Facility Details:** Name of Training Hospital/Laboratory, Department Rotation, Dates of Placement.
3. **Supervisor Details:** Name, Professional Qualification, KMLTTB License Number, Signature Space.

Section B: Core Competency Tracking Checklist

(Marking Key: *O* = Observed, *A* = Assisted under supervision, *P* = Performed independently)

Competency / Skill Domain	<i>O</i> <i>A</i> <i>P</i>	Supervisor Initials & Date
Pre-Analytical Phase		
Patient identification and sample collection (phlebotomy)		
Specimen rejection criteria evaluation and logging		
Centrifugation, separation, and sample aliquoting		
Clinical Chemistry		
Operation and daily maintenance of chemistry analyzers		
Running quality control (QC) sera and Levey-Jennings plotting		
Renal and liver function test processing & validation		
Medical Microbiology(Bacteriology)		



Media preparation, sterility testing, and gram staining

Inoculation, culturing, and colony identification

Antimicrobial susceptibility testing (Kirby-Bauer disk diffusion)

Hematology

Complete Blood Count (CBC) analyzer operation & manual differentials

Blood Transfusion

ABO/Rh blood grouping and crossmatching procedures

Coagulation screens (PT/INR, APTT)

Parasitology

Macroscopic and microscopic urine analysis

Stool microscopy for ova, cysts, and occult blood

Blood film microscopy for malaria parasites and microfilaria

Mycology

Histopathology

Cytology

Medical Entomology

Medical Entomology

Virology and Immunology-

Medical Laboratory Management

Molecular Diagnostics

Safety & Quality Management (Biosafety and Biosecurity)

Biohazard waste segregation and spill management

Operation of LIS/laboratory registers for result dispatch

Section C: Weekly Summary & Supervisor Sign-off

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- a. **Weekly Log Entry:** Space for summarizing total tests run, challenging clinical correlations observed, and continuous professional development (CPD) attendance.
- b. **End-of-Rotation Evaluation:** Graded assessment (Satisfactory / Unsatisfactory) signed and stamped by the head of the laboratory department.

KMLTTB LOGBOOK FOR MEDICAL LABORATORY SCIENCES INTERNSHIP

A comprehensive internship logbook for Medical Laboratory Sciences under the regulation of the **Kenya Medical Laboratory Technicians and Technologists Board (KMLTTB)** tracks daily clinical rotations, practical proficiencies, and professional competencies.

Internship seekers must obtain official internship license and logbook directly from KMLTTB (accessible via the KMLTTB Portal via eCitizen) before starting clinical placement.

1. Personal & Facility Biodata Section

- a. **Intern Details:** Full name, KMLTTB index/registration number, training institution, and passport photo.
- b. **Facility Details:** Name of the accredited internship hospital/laboratory, department rotation schedule, and inclusive dates.
- c. **Supervisor Details:** Name, professional qualification, and KMLTTB practicing license number of your supervising laboratory mentor/superintendent.

2. Core Rotational Departments & Minimum Competencies

Logbooks must record practical tasks and case numbers across the primary diagnostic disciplines:

I. Clinical Chemistry

- a. **Specimen processing:** Serum/plasma separation, sample rejection criteria, and preservation.
- b. **Routine assays:** Liver function tests (LFTs), renal profile (U/E/Cr), lipid profile, and glycemic control tests.
- c. **Instrumentation & QC:** Operation of automated chemistry analyzers, calibration, and running Internal Quality Control (IQC).

II. Hematology

- a. **Routine tests:** Complete Blood Count (CBC) analysis, erythrocyte sedimentation rate (ESR), and peripheral blood film (PBF) preparation and staining.
- b. **Coagulation:** Prothrombin Time (PT/INR) and Activated Partial Thromboplastin Time (APTT).



- III. **Blood Transfusion:** Blood grouping (ABO/Rh), cross-matching (major/minor/ Coombs test), screening for transfusion-transmissible infections (TTIs), and component preparation/storage.

IV. Medical Microbiology & Mycology

- a. **Specimen handling:** Processing of pus, sputum, stool, urine, and cerebrospinal fluid (CSF).
- b. **Culture & Sensitivity:** Media preparation, inoculation techniques, Gram staining, biochemical identification tests, and Kirby-Bauer disc diffusion antibiotic susceptibility testing.
- c. **Mycology/Parasitology:** Wet mounts for *Trichomonas*, stool microscopy for ova/cysts, and blood smears for malaria parasites/filaria.
- d. Histopathology & Cytopathology
- e. **Tissue processing:** Fixation, dehydration, clearing, embedding, and microtomy (section cutting).
- f. **Staining:** Routine Haematoxylin and Eosin (H&E) staining and special staining techniques.
- g. **Cytology:** Smear preparation and cytological screening assistance.

3. Daily & Weekly Activity Log Format

Each page of clinical record should follow a structured layout verified and signed off weekly by A Qualified supervisor (**PRECEPTOR**) E.G:

Date	Department	Specific Procedure / Description	Case Number Performed	Supervisor's Name and Reg No.
DD/MM	Hematology	Peripheral blood film review (Microcytic hypochromic anemia)	3	<i>Sign</i>
DD/MM	Microbiology	Urine culture plating and colony counting	5	<i>Sign</i>

4. Professional Conduct, Ethics & Safety

- a. **Biosafety Practices:** Proper waste segregation (color-coding), spill management, autoclave operation, and use of Personal Protective Equipment (PPE).
- b. **Ethics & Confidentiality:** Adherence to the KMLTTB Code of Ethics regarding patient data privacy, zero-result disclosure directly to patients, and critical/panic value reporting protocols.



KMLTTB COMPREHENSIVE MEDICAL LABORATORY SCIENCES INTERNSHIP LOGBOOK

1. General Specimen Collection & Management (Pre-Analytical Phase)

✦ Phlebotomy & Specimen Collection

- Venipuncture & Capillary Sampling:** Execution of clean venipuncture, butterfly needle usage, and heel/finger pricks.
- Order of Draw Compliance:** Strict adherence to tube sequencing (Blood cultures → Sodium Citrate → Serum/Gel → Heparin → EDTA → Fluoride Oxalate).
- Patient Identification & Consent:** Verification using at least two unique identifiers and pre-test counseling (e.g., for HIV or fasting profiles).

✦ Specimen Management & Reception

- Rejection Criteria Assessment:** Identification of haemolysed, lipemic, icteric, clotted (in anticoagulated tubes), mislabeled, or under-filled samples.
- Chain of Custody & Logging:** Digital or manual registration into the Laboratory Information Management System (LIMS), triple-packaging setup for referral samples, and temperature-controlled storage.

2. Core Diagnostic Disciplines (Analytical Phase)

✦ Clinical Chemistry

- Routine Metabolic Panels:** Execution of Liver Function Tests (LFTs), Renal Function Tests (RFTs/U&Es), Lipid Profiles, and Fasting Blood Glucose (FBG).
- Special Chemistry & Endocrinology:** Processing Cardiac Markers (Troponins), Thyroid Function Tests (TFTs), and Serum Electrophoresis.
- Equipment & Quality Control:** Daily calibration of automated analyzers, plotting Levey-Jennings (L-J) charts, and applying Westgard rules to identify systemic or random errors.

✦ Haematology

- Automation & Maintenance:** Operation, troubleshooting, and daily background checks of 3-part or 5-part differential Full Blood Count (FBC) counters.
- Peripheral Blood Film (PBF):** Preparation of uniform wedges, Leishman/Giemsa staining, and morphological identification of anemias, leukemias, and hemoparasites.



- c. **Coagulation Profiles:** Manual or automated testing for Prothrombin Time (PT/INR) and Activated Partial Thromboplastin Time (APTT).

★ Blood Transfusion Science (Immunohaematology)

- a. **Forward and Reverse Phenotyping:** ABO and Rhesus (D) blood grouping using tube, tile, or gel card methods.
- b. **Compatibility Testing:** Major and minor crossmatching, Immediate Spin (IS), and Indirect Antiglobulin Testing (IAT) for antibody screening.
- c. **Donor Management & Processing:** Donor screening, blood collection, component preparation (Packed Red Cells, Platelets, Fresh Frozen Plasma), and screening for Transfusion-Transmissible Infections (TTIs: HIV, HBV, HCV, and Syphilis).

★ Parasitology

- a. **Stool Analysis:** Direct wet mounts (saline and iodine) for protozoan cysts/trophozoites (e.g., *Entamoeba histolytica*, *Giardia lamblia*) and helminth ova/larvae.
- b. **Malaria Diagnostics:** Preparation, staining, and quantification (parasite density counting) of thick and thin blood smears.
- c. **Concentration Techniques:** Execution of Formol-Ether sedimentation and Zinc Sulfate flotation methods for low-density parasitic infections.

★ Medical Entomology

- a. **Vector Identification:** Morphological sorting of medically important vectors including *Anopheles*, *Culex*, and *Aedes* mosquitoes, tsetse flies (*Glossina*), and ticks.
- b. **Dissection & Xenomonitoring:** Basic mosquito salivary gland and midgut dissection for sporozoites and oocysts.
- c. **Insecticide Susceptibility:** Setting up WHO bioassay tests to monitor vector resistance patterns.

★ Bacteriology

- a. **Media Preparation & Sterilization:** Autoclaving, quality checking, and pouring of selective/differential media (MacConkey, Blood Agar, Chocolate Agar, XLD).
- b. **Inoculation & Culturing:** Streaking techniques (isolation, quadrant, and quantitative methods for urine).
- c. **Identification & Antimicrobial Susceptibility Testing (AST):** Gram staining, biochemical testing (Catalase, Coagulase, Oxidase, IMViC), and Kirby-Bauer disc diffusion interpreted via CLSI standards.

★ Virology

- a. **Serology & Rapid Diagnostics:** Performance of lateral flow assays, ELISA testing for viral antigens/antibodies (HIV, HBsAg, HCV, Dengue).
- b. **Cell Culture Assistance:** Maintenance protocols for viral transport media (VTM) and observation of cytopathic effects (CPE) if available at the facility.



★ Mycology

- a. **Direct Microscopic Examination:** Standard 10%-20% KOH mounts for dermatophytes, India ink preparation for *Cryptococcus neoformans*, and Calcofluor white staining.
- b. **Fungal Culturing:** Inoculation onto Sabouraud Dextrose Agar (SDA) with and without cycloheximide.
- c. **Morphological Identification:** Slide culture techniques, germ tube tests for *Candida albicans*, and macroscopic/microscopic assessment of molds.

★ Molecular Diagnostics

- a. **Nucleic Acid Extraction:** Manual or automated extraction of DNA/RNA from clinical samples (whole blood, plasma, swabs).
- b. **Polymerase Chain Reaction (PCR):** Master Mix preparation, thermal cycler programming, running Real-Time PCR (qPCR) for viral load monitoring (HIV, HBV) or pathogen detection (GeneXpert for TB).
- c. **Amplicons Contamination Control:** Maintenance of unidirectional workflow across separate cleanroom, mixing, and amplification zones.

★ Histopathology

- a. **Tissue Processing Pipeline:** Grossing assistance, fixation (10% neutral buffered formalin), automated/manual tissue processing (dehydration, clearing, infiltration), paraffin embedding, and block making.
- b. **Microtomy:** Section cutting using a rotary microtome (3-5 micron thickness), water bath floating, and slide mounting.
- c. **Routine Staining:** Execution of standard Haematoxylin and Eosin (H&E) staining protocols and slide coverslipping.

★ Cytopathology

- a. **Specimen Preparation:** Centrifugation of fluids (pleural, peritoneal, urine), fine-needle aspiration cytology (FNAC) slide fixation (air-dried vs. alcohol-fixed).
- b. **Specialized Cytological Staining:** Processing slides using Papanicolaou (Pap) stain for cervical smears and Giemsa/May-Grünwald staining for fluid cytology.



3. Logbook Matrix Template Example

Ensure every page of your physical logbook contains this structured confirmation format for validation during your final KMLTTB board assessments.

WEEK NO:	DATES:	[DD/MM/20...] TO [DD/MM/20...]		DEPARTMENT	
Date Run	Specific Procedure	Clinical Case Details	No. of Samples	Internal QC	Include equipment used and results noted) Successfully Met Yes/No/Comment)
INTERN'S REFLECTION					
SUPERVISOR'S PRINTED NAME		KMLTTB REG NO:		SIGN/STAMP	

4. Post-Analytical Phase & Professional Competencies

- Critical Value Notification:** Immediate reporting and logging of panic results (e.g., potassium <2.5 or >6.5 mmol/L, positive blood cultures, or malaria hyperparasitemia) to clinical teams.
- Biosafety & Waste Segregation:** Strict adherence to color-coded disposal bins (Black: general waste, Yellow: infectious biohazard, Red: highly infectious, Brown: pharmaceutical, Sharp containers).
- Troubleshooting Logs:** Documentation of instrument downtime, reagent inventory tracking, and corrective actions taken during QC shifts

.....THE END.....

