ICTQual AB

Qualification Specification

ICTQual AB Level 3 Diploma in Medical Laboratory Technician

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ICTQual AB's

Level 3 Diploma in Medical Laboratory Technician

Contents

Qualification Specification about

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About ICTQual AB's

ICTQual AB is a distinguished awarding body based in the United Kingdom, dedicated to fostering excellence in education, training, and skills development. Committed to global standards, ICTQual AB's provides internationally recognized qualifications that empower individuals and organizations to thrive in an increasingly competitive world. Their offerings span diverse industries, including technical fields, health and safety, management, and more, ensuring relevance and adaptability to modern workforce needs.

ICTQual AB's delivers high-quality educational solutions through a network of Approved Training Centres worldwide. Their robust standards and innovative teaching methodologies equip learners with practical knowledge and skills for personal and professional growth. With a mission to inspire lifelong learning and drive positive change, ICTQual AB's continuously evolves its programs to stay ahead of industry trends and technological advancements.

Course Overview

The ICTQual AB Level 3 Diploma in Medical Laboratory Technician is a globally recognized qualification designed to prepare learners for an exciting and rewarding career in healthcare and medical science. This diploma serves as a bridge between theoretical science and practical application, providing a strong foundation in medical laboratory technology.

It equips learners with the essential knowledge and hands-on skills required to perform critical laboratory procedures, handle medical samples with care, and support diagnostic testing across various healthcare settings. The curriculum is meticulously designed to meet international standards, ensuring graduates are technically competent and professionally responsible.

Aims of the Qualification

The primary aim of this qualification is to produce competent laboratory professionals who can contribute effectively to patient care through accurate diagnostic services.

Key Aims Include:

- **Foundation Building:** To provide a robust understanding of the core principles of medical laboratory science, including biology, chemistry, and laboratory safety.
- **Skill Development:** To develop technical proficiency in operating laboratory equipment, processing specimens, and recording data with high precision.
- **Professional Preparation:** To instill a strong sense of professional responsibility, ethics, and safety compliance required in modern clinical environments.
- **Career & Academic Progression:** To offer a pathway for learners to enter the workforce as entry-level technicians or progress to higher education (such as Level 4/5 Diplomas or Bachelor's degrees) in Biomedical Science or related fields.

Course Objectives

Upon successful completion of this diploma, learners will be able to demonstrate specific competencies across several key modules.

Technical Competencies:

- **Clinical Chemistry:** Perform basic chemical analysis of body fluids (blood, urine) to assess organ function (e.g., liver and kidney function tests).
- **Microbiology:** Demonstrate skills in cultivating, isolating, and identifying microorganisms to aid in the diagnosis of infectious diseases.
- **Haematology:** Analyze blood samples to identify cell morphology, count blood cells, and assist in diagnosing blood disorders like anemia or leukemia.
- **Immunology:** Understand the body's immune response and perform basic serological tests to detect antigens and antibodies.

Targeted Audience

This qualification is designed for a broad range of learners interested in the medical and healthcare sector:

- **School Leavers (16+):** Individuals who have completed secondary education and wish to start a vocational career in healthcare immediately.
- **Career Changers:** Adults seeking to switch to a stable and growing profession in the medical sciences without needing a full university degree initially.
- **Healthcare Support Staff:** Existing healthcare assistants or porters who wish to upskill and move into a technical laboratory role.
- **Aspiring Undergraduates:** Students planning to pursue advanced degrees in Medicine, Pharmacy, or Biotechnology who want a practical foundation before university.

Career Opportunities

Graduates of this diploma are well-positioned for employment in various sectors, including:

- **Hospitals (Public & Private):** Diagnostic laboratories and emergency pathology units.
- **Diagnostic Centres:** specialized private labs offering blood work and pathology services.
- **Blood Banks:** assisting with blood typing, screening, and processing.
- **Research Institutions:** Supporting scientific research in universities or pharmaceutical companies.

Certification Framework

Qualification title	ICTQual AB Level 3 Diploma in Medical Laboratory Technician
Course ID	HCM0002
Total Qualification Time	300 Hours
Guided Learning Hours	150 Hours
Grading Type	Pass / Fail
Competency Evaluation	Coursework / Assignments / Verifiable Experience
Assessment	The assessment and verification process for ICTQual AB's qualifications involves two key stages: **Internal Assessment and Verification:** ✓ Conducted by the staff at the Approved Training Centre (ATC) to ensure learners meet the required standards through continuous assessments. ✓ Internal Quality Assurance (IQA) is carried out by the centre's IQA staff to validate the assessment process. **External Quality Assurance:** ✓ Managed by ICTQual AB's verifiers, who periodically review the centre's assessment and IQA processes. Verifies that assessments are conducted to the required standards and ensures consistency across centres

Entry Requirements

To enrol in ICTQual Level 3 Diploma in Medical Laboratory Technician, learner must meet the following entry requirements:

- ✓ **Age Requirement:** While there is usually no strict age limit, learners are typically expected to be at least 18 years old. This reflects the professional responsibilities and safety standards associated with laboratory and clinical practice.
- ✓ **Educational Background:** Learners should hold a minimum of a high school diploma or an equivalent qualification, preferably with a strong foundation in science subjects such as Biology, Chemistry, and Mathematics. This ensures readiness for the scientific concepts and laboratory practices covered in the course.
- ✓ **Professional Experience:** Previous experience in related roles such as laboratory assistant, research assistant, or healthcare technician—can enhance an applicant's profile and provide valuable practical insight into laboratory environments.
- ✓ **English Proficiency:** As course materials, laboratory manuals, and assessments are delivered in English, learners are expected to demonstrate a good command of the language. This supports clear understanding of technical terms, laboratory procedures, and healthcare documentation.
- ✓ **Health and Physical Fitness:** Medical laboratory work often involves handling delicate equipment, standing for extended periods, and working with medical samples. Therefore, learners should be in good health and possess the physical capability to carry out laboratory tasks effectively and safely.
- ✓ **Background Verification:** In line with healthcare and laboratory regulations, some institutions may require learners to undergo a criminal background check or provide a police clearance certificate, particularly when training includes clinical or hospital-based placements.

Qualification Structure

This qualification comprises 8 mandatory units. Candidates must successfully complete all mandatory units to achieve the qualification.

Mandatory Units	
Unit Ref#	**Unit Title**
HCM0002-01	Introduction to Medical Laboratory Science
HCM0002-02	Clinical Pathology
HCM0002-03	Laboratory Techniques and Procedures
HCM0002-04	Quality Assurance and Quality Control
HCM0002-05	Instrumentation and Automation
HCM0002-06	Medical Terminology and Documentation
HCM0002-07	Clinical Practicum
HCM0002-08	Professional Development and Career Readiness

Centre Requirements

To ensure quality training delivery, centres must adhere to the following standards:

1. Centre Approval

- ✓ Centres must be formally approved by ICTQual AB's before delivering this qualification.
- ✓ Approval involves a review of facilities, policies, and staff qualifications.

2. Qualified Staff

- ✓ **Tutors:** Hold a recognized qualification at Level 4 or higher (e.g., Higher National Certificate (HNC), Higher National Diploma (HND), or Bachelor's degree) in a relevant technical field such as Medical Laboratory Technology, Biomedical Science, Clinical Pathology, Microbiology, Biochemistry, or Healthcare Science.
- ✓ **Assessors:** Must hold a recognized assessor qualification (e.g., CAVA, AVRA) or equivalent)
- ✓ **Internal Quality Assurers (IQAs):** Must hold a recognized IQA qualification (e.g. Level 4 Award in the IQA and Level 4 Certificate in Leading the IQA) and experience to oversee assessment standards.

3. Learning Facilities

Centre must offer:

- ✓ Private study areas and internet-enabled workspaces (for blended or physical delivery)
- ✓ Academic and pastoral support for learners
- ✓ Administrative support must be available to manage enrolment, tracking, and learner queries efficiently

4. Health and Safety Compliance

- ✓ All training facilities must comply with health and safety regulations.

- ✓ Centres must conduct regular risk assessments for practical activities.

5. Learning Resources

- ✓ **Course Materials:** Approved textbooks, study guides, and digital content must align with the qualification standards.
- ✓ **Assessment Tools:** Templates and guidelines must be provided to ensure standardized evaluation processes.
- ✓ **E-Learning Support:** Centres offering online or blended learning must implement an effective Learning Management System (LMS).

6. Assessment and Quality Assurance

- ✓ Centres must ensure assessments meet ICTQual AB's competency standards.
- ✓ Internal quality assurance (IQA) must be conducted to maintain consistency.
- ✓ External verifiers from ICTQual AB's will review assessment and training practices.

7. Learning Support

- ✓ **Qualification Guidance:** Support for coursework and assignments.
- ✓ **Career Pathway Assistance:** Information on progression opportunities in Medical Technology and Healthcare Science sectors.
- ✓ **Accessibility Support:** Accommodations for learners with disabilities or language barriers.

8. Policies and Compliance

Centres must uphold the following policies in accordance with ICTQual AB's standards:

- ✓ Equality, Diversity, and Inclusion Policy.
- ✓ Health and Safety Policy.
- ✓ Safeguarding and Learner Protection Policy.
- ✓ Complaints and Appeals Procedure.
- ✓ Data Protection and Confidentiality Policy.

9. Reporting Requirements

- Centres must provide ICTQual AB's with regular reports on learner registrations, progress, and certification outcomes.
- Assessment records must be maintained for external auditing and quality assurance purposes.

Support for Candidates

Centres should ensure that materials developed to support candidates:

- ✓ Facilitate tracking of achievements as candidate's progress through the learning outcomes and assessment criteria.
- ✓ Include information on how and where ICTQual AB's policies and procedures can be accessed.
- ✓ Provide mechanisms for Internal and External Quality Assurance staff to verify and authenticate evidence effectively.

This approach ensures transparency, supports candidates' learning journeys, and upholds quality assurance standards.

Assessment

This qualification is competence-based, requiring candidates to demonstrate proficiency as defined in the qualification units. The assessment evaluates the candidate's skills, knowledge, and understanding against the set standards. Key details include:

1. **Assessment Process:**

   - ✓ Must be conducted by an experienced and qualified assessor.
   - ✓ Candidates compile a portfolio of evidence that satisfies all learning outcomes and assessment criteria for each unit.

2. **Types of Evidence:**

   - ✓ Observation reports by the assessor.
   - ✓ Assignments, projects, or reports.
   - ✓ Professional discussions.
   - ✓ Witness testimonies.
   - ✓ Candidate-produced work.
   - ✓ Worksheets.
   - ✓ Records of oral and written questioning.
   - ✓ Recognition of Prior Learning (RPL).

3. **Learning Outcomes and Assessment Criteria:**

   - ✓ **Learning Outcomes:** Define what candidates should know, understand, or accomplish upon completing the unit.
   - ✓ **Assessment Criteria:** Detail the standards candidates must meet to demonstrate that the learning outcomes have been achieved.

This framework ensures rigorous and consistent evaluation of candidates' competence in line with the qualification's objectives.

Unit Descriptors

HCM0002-01- Introduction to Medical Laboratory Science

This unit provides a foundational overview of the medical laboratory profession, exploring its history, organizational structure, and critical role in healthcare systems. Learners will understand the core responsibilities of laboratory personnel, ethical considerations, and fundamental safety protocols. By examining the workflow from patient preparation to result reporting, students gain insight into how laboratories contribute to effective disease diagnosis and patient management.

Learning Outcome:	Assessment Criteria:
1. **Explain the role and importance of medical laboratory science in healthcare and diagnostics.**	1.1 Describe how laboratory test results help doctors make decisions about patient diagnosis and treatment. 1.2 Explain the impact of errors in laboratory testing on patient safety and health outcomes. 1.3 Outline the general workflow of the diagnostic process, from the doctor's request to the final report.
2. **Describe the structure and functions of a modern medical laboratory.**	2.1 Identify the key departments within a medical laboratory (e.g., reception, testing areas, storage) and their specific functions. 2.2 Describe the purpose of standard laboratory equipment used in daily operations. 2.3 Explain how different laboratory departments work together to process urgent patient samples efficiently.
3. **Identify the responsibilities and ethical standards of a medical laboratory technician.**	3.1 List the main daily duties of a technician, distinguishing them from the roles of other staff like scientists or phlebotomists. 3.2 Explain the importance of following Standard Operating Procedures (SOPs) to ensure quality and consistency. 3.3 Describe how ethical principles, such as integrity and honesty, apply to reporting test results.
4. **Understand laboratory safety regulations and biosafety protocols.**	4.1 Identify common biological, chemical, and physical hazards found in a medical laboratory. 4.2 Demonstrate the correct selection and use of Personal Protective Equipment (PPE) for specific tasks. 4.3 Explain the correct procedure for segregating and disposing of different types of laboratory waste (e.g., sharps, biohazard).

5. Differentiate between major laboratory disciplines such as microbiology, haematology, and biochemistry.	5.1 Describe the types of specimens analyzed and common tests performed in a Microbiology department. 5.2 Explain the main focus of Haematology and identify one common condition it helps diagnose. 5.3 Compare the testing methods used in Clinical Biochemistry with those used in Histopathology.
6. Apply professional conduct and confidentiality standards when handling patient samples.	6.1 Demonstrate the correct procedure for verifying patient details on samples to prevent identification errors. 6.2 Explain why patient confidentiality is critical and how data protection laws apply to laboratory records. 6.3 Discuss the potential consequences of a confidentiality breach for the patient, the technician, and the healthcare facility.

HCM0002-02- Clinical Pathology

This unit introduces the diagnostic analysis of body fluids and tissues to understand disease processes. Learners explore core disciplines including haematology, clinical chemistry, and microbiology, examining how pathological changes affect test results. The curriculum emphasizes correlating laboratory data with clinical conditions, enabling students to recognize abnormal findings and understand their significance in diagnosing and monitoring various medical disorders.

Learning Outcome:	Assessment Criteria:
1. Understand the principles of pathology and its application in clinical diagnostics.	1.1 Define pathology and explain how it differs from normal physiology. 1.2 Explain how pathological changes in the body (disease processes) can be detected through laboratory testing. 1.3 Discuss the importance of accuracy and precision in pathology to ensure correct clinical diagnoses.
2. Identify common diseases and conditions diagnosed through laboratory tests.	2.1 Identify three common diseases (e.g., Diabetes, Anemia, Urinary Tract Infection) frequently monitored in the laboratory. 2.2 Justify the selection of specific laboratory tests for detecting common diseases (e.g., HbA1c for Diabetes). 2.3 Describe the typical laboratory markers associated with an acute bacterial infection.
3. Describe the role of blood, urine, and tissue samples in clinical investigations.	3.1 Explain why whole blood, serum, and plasma are used for different types of diagnostic investigations. 3.2 Describe the diagnostic value of urine analysis in detecting kidney function and metabolic disorders. 3.3 Explain the specific purpose of tissue biopsies in diagnosing structural abnormalities or cancers.
4. Interpret basic test results under supervision.	4.1 Compare a provided set of patient test results against standard reference ranges to determine if they are normal or abnormal. 4.2 Demonstrate the ability to verify that the test results match the patient's age and gender demographics. 4.3 Explain the factors (such as hemolysis or lipemia) that might make a test result invalid or difficult to interpret.
5. Understand the link between clinical symptoms and laboratory findings.	5.1 Correlate common physical symptoms (e.g., jaundice or fatigue) with expected changes in laboratory markers (e.g., bilirubin or hemoglobin). 5.2 Explain how a specific set of patient symptoms helps a doctor decide which laboratory tests to request.

	5.3 Discuss a simple case study where laboratory findings confirm a diagnosis suggested by the patient's symptoms.
6. Recognise abnormal test values and their potential clinical significance.	6.1 Distinguish between a slightly abnormal result and a "critical value" that poses an immediate risk to the patient. 6.2 Explain the potential clinical meaning of specific abnormal findings (e.g., a very high White Blood Cell count). 6.3 Describe the urgent reporting procedure a technician must follow when a critical value is identified.

HCM0002-03- Laboratory Techniques and Procedures

Focused on practical competency, this unit develops essential skills in standard laboratory methodologies. Learners will master techniques such as microscopy, centrifugation, pipetting, and solution preparation while adhering to strict safety standards. The unit covers the entire specimen lifecycle, from collection and processing to storage, ensuring students can perform manual procedures with high precision and minimize errors in the pre-analytical phase.

Learning Outcome:	Assessment Criteria:
1. **Perform standard laboratory techniques, including pipetting, centrifugation, and staining.**	1.1 Demonstrate the correct technique for using variable volume pipettes to measure liquids with accuracy and precision. 1.2 Explain the principles of centrifugation and demonstrate how to balance a centrifuge rotor correctly. 1.3 Perform a basic staining procedure (e.g., Gram stain) on a slide, ensuring clear visibility of structures.
2. **Follow step-by-step laboratory protocols with accuracy and safety.**	2.1 Interpret a written Standard Operating Procedure (SOP) to set up a specific laboratory test. 2.2 Demonstrate the ability to follow a multi-step protocol in the correct sequence without omission. 2.3 Identify potential safety risks within a specific protocol and implement controls (e.g., using a fume hood) before starting.
3. **Handle, prepare, and process patient samples effectively.**	3.1 Demonstrate the correct procedure for receiving and labeling a patient sample to maintain the chain of custody. 3.2 Prepare a sample for analysis (e.g., separating serum from a blood clot) without causing hemolysis or degradation. 3.3 Explain the criteria for rejecting a sample (e.g., insufficient volume, wrong container) and the procedure for requesting a redraw.
4. **Use microscopes and other laboratory tools correctly.**	4.1 Demonstrate the correct setup of a light microscope, including focusing and adjusting illumination (Köhler illumination). 4.2 Identify the parts of common laboratory tools (e.g., spectrophotometer or water bath) and describe their proper maintenance.

	4.3 Demonstrate the safe handling and cleaning of optical lenses to prevent damage and ensure clear imaging.
5. Understand aseptic techniques and contamination control.	5.1 Explain the purpose of aseptic technique in preventing sample contamination and protecting the technician. 5.2 Demonstrate the correct procedure for sterilizing a work surface before and after use. 5.3 Describe how to transfer a microbiological sample from one container to another without introducing contaminants.
6. Document laboratory activities according to standard procedures.	6.1 Complete a laboratory worksheet or logbook with accurate data, dates, and signatures. 6.2 Explain the importance of "traceability" in documentation and how it applies to reagents and equipment batches. 6.3 Demonstrate the correct method for correcting a recording error (e.g., single strike-through with initials) to maintain legal data integrity.

HCM0002-04- Quality Assurance and Quality Control

This unit establishes the critical frameworks required to maintain accuracy and reliability in laboratory testing. Students learn to distinguish between Quality Assurance (QA) and Quality Control (QC), implementing statistical methods such as Levey-Jennings charts to monitor performance. Topics include calibration, proficiency testing, and error management, ensuring learners understand how to detect analytical errors and comply with international accreditation standards.

Learning Outcome:	Assessment Criteria:
1. Define quality assurance and quality control in medical laboratory practice.	1.1 Differentiate between "Quality Assurance" (the overall process) and "Quality Control" (the specific testing of the process). 1.2 Explain the concepts of "Accuracy" (closeness to the true value) and "Precision" (reproducibility) in test results. 1.3 Describe how a robust QA/QC system prevents misdiagnosis and improves patient trust.
2. Apply standard operating procedures (SOPs) to maintain reliability and accuracy.	2.1 Demonstrate strict adherence to a specific SOP during a practical task to ensure the result is reproducible. 2.2 Explain why SOPs must be "controlled documents" that are regularly reviewed and updated. 2.3 Discuss the risks of modifying a procedure without authorization or documentation.
3. Identify sources of laboratory errors and implement corrective measures.	3.1 Categorize common laboratory errors into Pre-analytical, Analytical, and Post-analytical phases. 3.2 Apply a basic "Root Cause Analysis" approach to investigate why a specific error occurred (e.g., why a sample was mislabelled). 3.3 Document a "Corrective Action" for a simulated error, ensuring steps are taken so it does not happen again.
4. Calibrate and maintain laboratory instruments as part of QA/QC processes.	4.1 Perform a routine calibration check on a basic instrument (e.g., pH meter or pipette) and record the results. 4.2 Explain the difference between "calibration" (adjusting the instrument) and "validation" (checking if it works correctly).

	4.3 Identify warning signs that an instrument requires maintenance (e.g., drift in results or mechanical noise).
5. Understand the importance of internal and external quality assessments.	5.1 Explain the purpose of running Internal Quality Control (IQC) samples at the start of every shift. 5.2 Interpret a basic Levey-Jennings chart to identify if a process is "in control" or "out of control" (e.g., spotting a trend or shift). 5.3 Describe how External Quality Assessment (EQA) schemes allow a laboratory to compare its performance with other laboratories.
6. Ensure compliance with international laboratory standards and regulations.	6.1 Identify the key international standard for medical laboratories (e.g., ISO 15189) and its main purpose. 6.2 Explain the technician's individual responsibility in preparing for an external audit or inspection. 6.3 Demonstrate how to maintain personal training records (CPD) as proof of competence for regulatory compliance.

HCM0002-05- Instrumentation and Automation

This unit covers the operation, calibration, and maintenance of essential laboratory equipment, ranging from basic microscopes to advanced automated analysers. Learners examine the principles behind spectrophotometry, electrochemical analysis, and immunoassay platforms. Emphasis is placed on troubleshooting common technical issues and understanding the shift towards automation, preparing students to manage modern laboratory technology efficiently and safely in high-throughput environments.

Learning Outcome:	Assessment Criteria:
1. Understand the function and operation of basic laboratory instruments.	1.1 Explain the basic working principle of essential instruments (e.g., how a spectrophotometer uses light to measure concentration). 1.2 Identify the key external and internal components of a standard laboratory analyzer (e.g., probes, rotors, waste lines). 1.3 Describe the specific safety features built into modern instruments (e.g., lid locks, biological safety shields).
2. Operate automated laboratory systems for diagnostic testing.	2.1 Demonstrate the correct procedure for loading patient samples into an analyzer, ensuring barcodes are aligned for scanning. 2.2 Use the software interface to program a specific test request or "test profile" for a sample. 2.3 Interpret the visual status indicators on an analyzer (e.g., "Ready," "Processing," "Error") to monitor workflow.
3. Maintain laboratory equipment to ensure consistent performance.	3.1 Perform a routine "daily start-up" procedure, including checking reagent levels and emptying waste containers. 3.2 Demonstrate how to clean sensitive components (such as sample probes or cuvettes) according to the manufacturer's manual. 3.3 Complete a maintenance logbook accurately to provide a legal record of equipment care.
4. Apply troubleshooting skills for minor instrument malfunctions.	4.1 Identify common error codes displayed by an instrument (e.g., "Sample Short," "Clot Detected," or "Calibration Failed"). 4.2 Perform basic corrective actions for minor faults, such as priming a reagent line or resetting a mechanical arm.

	4.3 Explain the "escalation procedure"—identifying when a fault is too complex and requires a senior engineer.
5. Compare manual techniques with automated processes for efficiency.	5.1 Compare the "Turnaround Time" (TAT) of a manual test versus an automated test for the same analyte. 5.2 Explain how automation allows laboratories to handle high volumes of samples that would be impossible manually. 5.3 Discuss the differences in sample volume required for manual methods (often higher) versus automated methods (often lower).
6. Recognise the role of technology in improving diagnostic accuracy.	6.1 Explain how barcoding and automated identification systems reduce human transcription errors. 6.2 Describe how the Laboratory Information System (LIS) communicates with analysers to automatically upload results. 6.3 Identify situations where technology might fail (e.g., lipemic samples affecting optical readings) and manual review is still necessary.

HCM0002-06- Medical Terminology and Documentation

This unit equips learners with the linguistic tools necessary for effective communication in healthcare settings. Students analyse medical root words, prefixes, and suffixes to interpret complex terminology related to anatomy, physiology, and pathology. Additionally, the course covers accurate documentation practices, data privacy laws, and the use of Laboratory Information Systems (LIS) to ensure precise recording and reporting of patient data.

Learning Outcome:	Assessment Criteria:
1. Use medical terminology accurately in a laboratory setting.	1.1 Construct medical terms related to organ systems by correctly combining prefixes, roots, and suffixes (e.g., Hepato- + -itis). 1.2 Use precise anatomical terminology (such as distal, proximal, or venous) when describing sample collection sites. 1.3 Explain the meaning of common suffixes used in pathology (e.g., -emia for blood conditions, -oma for tumors).
2. Understand common medical abbreviations and diagnostic terms.	2.1 Translate common laboratory abbreviations (e.g., FBC, U&E, LFT) into their full test names. 2.2 Identify abbreviations that are considered "high risk" or ambiguous and explain why they should be avoided. 2.3 Match diagnostic terms (e.g., sepsis, hyperglycemia) to the specific laboratory department that investigates them.
3. Document laboratory results using professional reporting standards.	3.1 Format a draft laboratory report that includes all essential components (Patient ID, Test Name, Result, Units, and Reference Range). 3.2 Demonstrate the correct use of SI units (e.g., mmol/L, g/dL) when recording quantitative data. 3.3 Explain the importance of adding "comments" or "flags" to a report to highlight abnormal findings.
4. Maintain accurate and confidential patient records.	4.1 Demonstrate the correct method for filing or archiving physical and digital patient records for easy retrieval. 4.2 Explain the procedure for making a correction to a permanent medical record (e.g., an addendum) without deleting the original data.

	4.3 Describe the security measures required to protect patient databases (e.g., passwords, restricted access).
5. Communicate effectively with healthcare professionals through reports.	5.1 Demonstrate the protocol for verbally reporting a "critical value" to a nurse or doctor, including the "read-back" confirmation technique. 5.2 Draft a professional email or note to a clinician explaining why a sample was rejected (e.g., hemolysis). 5.3 Explain how to respond calmly and professionally if a doctor challenges a test result.
6. Interpret physician requests and translate them into laboratory procedures.	6.1 Review a laboratory request form to check for completeness (e.g., checking for clinical history and signature). 6.2 Translate a doctor's written clinical details (e.g., "suspected anemia") into the appropriate set of required tests. 6.3 Describe the action to take if a request form is illegible or the requested test does not match the sample provided.

HCM0002-07- Clinical Practicum

This capstone unit offers hands-on experience within a functional medical laboratory setting. Under professional supervision, learners apply theoretical knowledge to real-world scenarios, performing routine diagnostic tests and administrative tasks. The practicum emphasizes workflow management, team collaboration, and professional behavior. Successful completion demonstrates the learner's readiness to transition from the classroom to the workforce, adhering to workplace safety and operational protocols.

Learning Outcome:	Assessment Criteria:
1. **Apply theoretical knowledge in a real-world clinical or laboratory setting.**	1.1 Select the correct equipment and reagents for a live diagnostic task, justifying the choice based on scientific principles. 1.2 Explain the scientific reasoning behind a specific procedural step while performing it under supervision. 1.3 Describe how real-world variables (such as patient condition or sample quality) require adjustments to standard textbook methods.
2. **Demonstrate competence in handling patient samples under supervision.**	2.1 Process a range of patient samples (e.g., blood, urine) independently, ensuring the "chain of custody" is never broken. 2.2 Demonstrate the "two-identifier" check protocol (e.g., Name and ID number) on every sample processed during a shift. 2.3 Explain the immediate actions required if a sample is compromised (e.g., dropped or spilled) to prevent data loss.
3. **Follow safety and infection control protocols in a healthcare environment.**	3.1 Demonstrate the correct procedure for putting on and removing (donning and doffing) Personal Protective Equipment (PPE) for different hazardous zones. 3.2 Dispose of clinical waste (sharps, biohazard bags) into the correct color-coded bins during daily operations. 3.3 Describe the specific emergency exit route and assembly point for the assigned laboratory area.
4. **Collaborate effectively as part of a healthcare team.**	4.1 Participate in a shift handover, clearly communicating pending tasks or issues to the incoming team.

	4.2 Demonstrate professional communication when seeking assistance or clarifying unclear instructions from a supervisor. 4.3 Explain how the technician's specific role supports the work of senior scientists and doctors in the team structure.
5. Gain confidence in performing basic laboratory diagnostic tests.	5.1 Perform a routine diagnostic test (e.g., manual urinalysis or slide preparation) within the required Turnaround Time (TAT). 5.2 Verify that test results are valid by checking that Internal Quality Controls (IQC) are within range before reporting. 5.3 Identify specific technical tasks where supervision is no longer needed versus tasks that still require support.
6. Reflect on practical experiences to identify strengths and areas for improvement.	6.1 Maintain a reflective logbook or portfolio detailing daily activities, challenges faced, and lessons learned. 6.2 Evaluate a specific difficult situation encountered during the placement to identify what could be done better next time. 6.3 Create a simple personal action plan to improve a specific technical skill based on feedback from a workplace supervisor.

HCM0002-08- Professional Development and Career Readiness

Designed to prepare graduates for employment, this unit focuses on career planning and professional growth. Learners develop soft skills such as communication, teamwork, and time management while exploring ethical standards and continuing professional development (CPD). Practical activities include CV writing, interview preparation, and understanding employment rights, ensuring students are equipped to navigate the job market and succeed in their careers.

Learning Outcome:	Assessment Criteria:
1. Develop essential employability skills such as teamwork, communication, and problem-solving.	1.1 Evaluate personal strengths and weaknesses in relation to working within a multidisciplinary healthcare team. 1.2 Demonstrate effective verbal communication skills when explaining a complex technical issue to a non-technical colleague. 1.3 Apply a structured problem-solving method (e.g., Root Cause Analysis or Conflict De-escalation techniques) to resolve a simulated workplace conflict or operational issue.
2. Build a professional CV and prepare for interviews in healthcare and laboratory roles.	2.1 Produce a professional Curriculum Vitae (CV) tailored to a specific job description for a Medical Laboratory Technician. 2.2 Draft a formal cover letter that highlights relevant technical skills and experience for a potential employer. 2.3 Formulate clear and professional answers to common competency-based interview questions (e.g., "Describe a time you worked under pressure").
3. Understand career pathways in medical laboratory technology and related fields.	3.1 Describe the typical career progression structure within a clinical laboratory, from entry-level support staff to management roles. 3.2 Identify specialized fields within pathology (e.g., Cytology, Immunology) and the additional qualifications required to work in them. 3.3 Explain how skills gained in the laboratory can be transferred to related industries, such as medical sales or research.
4. Recognise the importance of continuous professional development (CPD).	4.1 Define Continuous Professional Development (CPD) and explain why it is a mandatory requirement for registration bodies.

	4.2 Identify three different types of CPD activities (e.g., attending workshops, reading journals, e-learning). 4.3 Develop a personal CPD plan for the first year of employment, including specific learning goals and timelines.
5. Apply ethical and legal considerations to professional practice.	5.1 Explain the purpose of a professional "Code of Conduct" and how it guides behavior inside and outside the workplace. 5.2 Discuss the legal implications of negligence or malpractice for a laboratory technician. 5.3 Describe the "Duty of Candour" (being open and honest when things go wrong) and its importance in healthcare ethics.
6. Adapt to evolving technologies and trends in healthcare diagnostics.	6.1 Research and describe one emerging technology (e.g., Artificial Intelligence or Point-of-Care Testing) changing the laboratory landscape. 6.2 Explain how "digital health" and electronic records are changing the way technicians interact with patient data. 6.3 Discuss strategies for staying current with rapid technological changes to remain employable in the future.

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