



**BML- 294: GENERAL LABORATORY FUNDAMENTALS**

**LAB MANUAL  
DEPARTMENT OF  
MEDICAL LABORATORY TECHNOLOGY  
SCHOOL OF HEALTH SCIENCES**

**COMPILED BY  
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### **1. Survey on Laboratory Safety and submission of report.**

Detailed knowledge about the following topics will be provided to students

**Safety precautions:** Safe use and storage of chemicals and reagents

Handling, transfer and shipment of specimen.

Planning for safety, General precautions for the avoidance of laboratory accidents preventive measures. Chemical, electrical, fire and radiation safety.

Safety organization. General Safety checklist.

Laboratory first-aid measures and kit.

Safety equipment.

Safety signs and signage system in laboratory and hospital.

**Laboratory Hazards:** Laboratory hazards and accidents

Factors contributing to laboratory hazards

First aid for laboratory hazards

### **2. Survey on Laboratory Ethics and submission of report**

Detailed knowledge about the following topics will be provided to students

General Ethical views. Co-operation and working relationship with other health professionals.

Confidentiality of patient information and test result. Dignity and privacy of patient.

Responsibility from acquisition of the specimen to the production of data.

Accountability for quality and integrity of clinical laboratory services.

Institutional ethical committee and its role. Role of Animal and Human ethical committee and its criteria of approval. Health & Medical surveillance. Laboratory ethics of biosafety

### **3. Survey on Quality Management and submission of report**

Detailed knowledge about the following topics will be provided to students

**Quality Control:** Quality Control of the product, chemicals, reagent. Total quality management framework of laboratory. Essential elements of Quality Assurance Programme. Internal and external factors for quality control assurance, Internal Quality control: control of pre-analytical and analytical variables, External Quality Control, Cost of conformance & non- conformance

Good laboratory management practices, Laboratory precision, accuracy & sensitivity, validation of methods, Calibrating definitive methods. Sources of variation in laboratory test results, Types of Laboratory Errors.