



# CLUSTER UNIVERSITY SRINAGAR

SYLLABUS (FYUP UNDER NEP 2020)

Offered By Department of Paramedical Centre & Clinical Biochemistry

Semester 1<sup>st</sup> Skill Enhancement Course (SEC)

*Course Title: Medical Laboratory Technician-I*

Course Code: HSS/Q0301 (UGPMD23S101)

Credits: 4 (Theory: 1, Practical: 3)

Contact Hrs: 105 (Theory: 15, Practical: 90)

Max. Marks 100

Theory: 25; Min Marks: 10

Practical: 75, Min. Marks: 30

## Objectives:

- To ensure readily availability of medical and diagnostic supplies
- To demonstrate techniques to maintain the personal hygiene needs
- To demonstrate actions in the event of medical and facility emergencies

## Training Outcomes:

After completing this programme, candidates will be able to:

- ☐ Describe the healthcare sector and diagnostic services.
- ☐ Perform clinical skills essential in providing basic diagnostic services, such as correctly collecting, transporting, receiving, accepting or rejecting, and storing blood/urine/stool and tissue samples.
- ☐ Conduct analysis of body fluids/samples.
- ☐ Prepare and document medical tests and clinical results.
- ☐ Explain quality assurance in laboratory works.
- ☐ Practice infection control measures.
- ☐ Ensure the ready availability of medical and diagnostic supplies.
- ☐ Demonstrate techniques to maintain personal hygiene needs.
- ☐ Demonstrate actions in the event of medical and facility emergencies.
- ☐ Exhibit professional behavior and personal qualities expected of a Medical Laboratory Technician.

## Unit I

**Healthcare Systems, Laboratory and Delivery:** Structure of Healthcare Service Providers (primary, secondary & tertiary), Principles of Hospital Functions, Various Diagnostic Centers and Medical Laboratory Facilities, Structures of Laboratories at different levels (National/State/District)

**Role of the Medical Laboratory Technician:** Laboratory maintenance responsibilities, Patient Comforts and Safety, Laboratory Test Results, Ethical Behavior

## Unit II

**Structure and Function of Human Body:** Basic understanding of the organization of body cells, tissues, organs, organ systems, membranes, and glands in the human body, The basic unit of the body – Cell, Body fluids, secretions, and excretions, Overview of the Endocrine, Cardiovascular, Musculoskeletal, Digestive, Respiratory, Urinary, Reproductive, Integumentary, Lymphatic, and Nervous Systems, Sense organs

## Unit III

**Introduction to Biochemistry, Haematology and Clinical Pathology:** Elementary knowledge of inorganic chemistry, organic chemistry, physical chemistry, and analytical chemistry, Basics of blood and collection of blood samples, Components of blood such as Haemoglobin (Hb), reticulocytes, red blood cells, White blood cells, Haemostasis & Coagulation mechanism and testing, Bone marrow examination, Examination of Urine, Stool, Sputum, Semen, CSF, and Other Body Fluids (Pleural Fluid, Pericardial Fluid, Peritoneal Fluid, Synovial Fluid, Ascitic Fluid)

## Unit IV

**Introduction to Laboratory related Medical Terminology:** Appropriate use of laboratory-related medical terminology in daily activities with colleagues, patients, and family.

**Pre-analytical Laboratory Testing Process:** Types of samples to be taken in the medical laboratory, Sample Handling, Different equipment useful for blood sample collection, Methods of blood sample collection, Procedure of sample transportation