# Lecturer in Medical Laboratory Technology

**Basic Principles of Biochemistry**

Introduction to medical technology & its role, Biologically important peptides, Safety measures for Corrosive chemicals, Toxic chemicals, Carcinogens, Explosive & Inflammable chemicals, infectious material (Biological material), First Aid and emergency treatment in Chemical injuries, Mechanical and thermal injuries, Electrical injuries, Preparation of Reagents, standard solutions, Storage of chemical, Radioisotopes, their use in Biochemistry, Osmosis, Dialysis, Surface tension and colloids, Donnan's membrane equilibrium, Biological specimens, Normal/ Reference Range of routine biochemical investigations

**Fundamentals of Histopathology, Histotechnology & Cytology**

Introduction to histopathology and laboratory organization, Fundamental of Histotechnology, Collection and Processing of cytological specimen, Exfoliative Cytology and FNAC, Anatomy and Physiology

**Basic Techniques in Laboratory Haematology, Blood Banking and Clinical Pathology**

**Medical Microbiology**

General Microbiology, General Bacteriology, Immunology, Virology, Parasitology, Applied Microbiology

**Analytical Biochemistry and Metabolism**

Simple metabolism, Carbohydrates, Lipids, Proteins, Amino Acids, Bioenergetics, Nucleosides and Nucleotides, Nucleic acids, Enzymes, Vitamins&Co-enzymes, Minerals, Porphyrias, Chromatography, Electrophoresis, Colorimetry, Spectrophotometer, Flamephotometer, Special investigations lipid profile, Flamephotometeric estimation of Na+, K+, Ca++ and Li+

**Basic Cellular Pathology and Allied Techniques**

Human Histology: Study of various body tissues, Histological study of various systems of the body, Fundamental of Applied Histology : Mircoscopy, working principle, maintenance and applications of various types microscopes, Metachromasia and metachromatic dyes, Stains, Haematoxylin stain, Amyloid-special stains, Routine cytology stain, Special stains like PAS, Mucicarmine, Alcian blue, Cytologic screening and quality control in cytology laboratory.

**Fundamentals of Haematology**

Definition and classification of Anemias, Haemoglobin disorders, Definition & classification of leukemias, Normal haemostasis, Haemostatic disorders, Applied Haematology

**Systemic Microbiology including Mycology & Parasitology**

Systemic Bacteriology, Virology, Mycology, Parasitology

**Clinical Biochemistry Methods**

Quality control of Clinical investigation, Automation in clinical biochemistry, Laboratory organization management maintenance of records, Pancreatic function tests, Liver function tests, Thyroid function tests, Kidney function tests, Clinical Enzymology, Hormones, Chromatography, Electrophoresis

**Special Histology and Histochemical Methods**

Applied Histology, Cytopathology, Immunopathology

**Introduction to Entomology**