**Certificate course on Medical Lab Chemistry (2018)**

**Total Hours: 30**

**The objectives of the course:**

1. To make students aware of common diseases
2. To train students to diagnose the disease in the lab.
3. To train students to manage a good lab.

**MODULE I : BACTERIOLOGY, MYCOLOGY & VIROLOGY (5hrs)**

- Bacterial Morphology, cultural characteristics, biochemical reaction, pathogenesis/disease caused & lab diagnosis. - Morphology and Structure of fungi, - Lab diagnosis of fungal Infections - Opportunistic fungal infections - General characters of viruses - Retro viruses - HIV, Hepatitis virus , Pox virus , - Picrona virus – Polio - Orthomyxo virus – Influenza, Arbo virus -Chikungunya, Dengue

- Herpes

**MODULE II HEMATOLOGY (5hrs)**

Haematological Disorders Blood Grouping Blood Transfusion Blood Donation Blood Collection Testing Donor Blood ,Blood Donor Records, Storage & Transport, Tumour & cancer markers

**MODULE III CLINICAL BIOCHEMISTRY (5hrs)**

Liver Functions & their Assessment- Renal Function Tests- Immuno diffusion Techniques, Radioimmunoassay & ELISA Principles & Applications. Electrophoresis - Photometry- Cardiac Profile - Different methods of Glucose Estimation- Different methods of Cholesterol Estimation.

**MODULE IV QUALITY LABORATORY MANAGEMENT (5hrs)**

Introduction to Quality control, Quality laboratory processes, Quality assurance, Quality assessment, Quality control, Quality planning and Quality improvement, Quality control charts, Levy- Jennings and Cusum charts, External quality control, Current trends in laboratory accreditation, ISO certificate, West guard Rules, Demonstration of various methods of quality control.

**MODULE V PRACTICALS (10 hrs)**

Systemic bacteriology Clinical biochemistry, Endocrinology, Tumour and cancer markers,

Elisa tests, Immunology & serology, Blood grouping & cross matching.

**The Expected outcomes of the course are:**

* Students got awareness about different diseases and their diagnosis methods.
* They also got knowledge in quality laboratory management, clinical biochemistry, blood grouping and cross matching which are essential for professions like medical laboratory technician.