



## D.M.L.T. (Diploma in Medical Lab Technology)

### Paper - I Human Anatomy & Physiology

#### A) Applied Anatomy & Physiology:

- Study of the structure of a cell.  
Normal anatomical structure, Histology & Functions (Physiology) of the following systems.
- The circulatory system (Heart & Blood Vessels)  
The Respiratory system  
The Digestive system  
Liver & Pancreas  
Lymphatic system  
Urinary system  
Reproductive system - Male & Female  
Endocrine system  
Central nervous system (Brain & Spinal cord)

#### PRACTICAL

#### Anatomy & Physiology

M.M. 100 Marks

#### ANATOMY: -

- (1) Demonstration of parts of body and land marks on the surface.
- (2) The skeletal system Head & Neck.

#### Thorex And Abdomen -

- Demonstration of various organs within thorex & abdomen.
- Respiratory systems, pleurae, heart, liver, gall bladder, peritoneum stomach & intestine.
- Spleen, pancreas & parts of urinary system

#### GENERAL NERVOUS SYSTEM: -

- Spinal level and site of lumbar puncture.
- Surface anatomy of important organs & blood Vessels.
- Identification of models like those of Brain, Heart, embryology, Kidney.

#### DEMONSTRATION: -

- Fixing, labeling & storage of specimens.
- Drawing diagrams & labeling.
- Demonstration of models, specimens & selection.

#### PHYSIOLOGY: -

- The microscope, its usage, cleaning & maintenance.
- Identification of blood cells under Microscope. RBC, various Reticulocytes.
- Preparation of anti coagulants.
- Collection of blood samples to obtain plasma & serum samples.
- Ruling area of Neubaur chamber.
- Usage of RBC & WBC pipettes & wintergreen Pipette & Win
- Estimation ofHb, preparation of blood smears, staining.
- Demonstration of blood pressure recording and pulse.
- Determination of bleeding, clotting & prothrombin Time.

#### Note:-

- All theory topics scheduled followed by practicals.
- Minimum 100 Hrs. of posting should be in Biochemistry Minimum 100 Hrs. of posting should be in pathology in 1 pathology Dept.





## D.M.L.T. (Diploma in Medical Lab Technology)

### Paper - II BIOCHEMISTRY

Total No. of Hrs.:- 60

Practical:

#### Biochemistry

#### — Biochemical structure of the following: (20 Hrs.)

- |                  |          |
|------------------|----------|
| a. Carbohydrates | (4 Hrs.) |
| b. Proteins      | (6 Hrs.) |
| c. Lipids        | (5 Hrs.) |
| d. Enzymes       | (5 Hrs.) |

#### — Clinical Biochemistry: (20 Hrs.)

- |  |          |
|--|----------|
| a. Kidney function tests (Renal profile)   | (5 Hrs.) |
| b. Liver functions tests (Hepatic profile) | (5 Hrs.) |
| C. Cardiac profile                         | (5 Hrs.) |
| d. Lipid profile                           | (5 Hrs.) |

#### — Estimation of: (20 Hrs.)

- |                    |
|--------------------|
| a. Blood sugar     |
| b. Blood Urea      |
| C. S. Cholesterol  |
| d. S. Uric Acid    |
| e. S. Creatinine   |
| f. Diff S. Enzymes |

#### PRACTICAL M. M.100

- (1) Demonstration of Kidney function test. Gastric function test & liver function test.
- (2) Demonstration of Enzyme Analysis - Acid and Alkaline phosphates, SGOT/SGPT. Lacticdehydrogenase, CPK.
- (3) Lipid profile.
- (4) Estimation of Blood/ serum- Glucose, G.T.T. Urea, creatinine, uric Acid, Cholesterol. Bill Rubin. protin & MG Ratio, Glycosylated fib.
- (5) demostration of semi automated, Fully automated Biochemical Analyzers.
- (6) Demonstration/ Exposure to Radioimmuno assay laboratory.
- (7) Visit to Laboratory of National Importance.)

### Paper - III Pathology - I : Haematology & Blood Banking Clinical Pathology & Parasitology

Total Na. of Hrs.:-60

#### HAEMATOLOGY:

(15 Hrs.)

- a. Composition of blood
- b. Collection of blood & anticoagulants
- c. Hb estimation, TRBC count — ANAEMIAS
- d. Preparation & staining of blood films
- e. Development of WBCS (Leukopoiesis)
- f. TWBC & DWBC count — LEUKAEMIAS
- g. Absolute values, ESR, PCV, Reticulocyte count
- h. Platelet count BT & CT
- i. LE cell preparation, sickling test, osmotic fragility
- j. Bone marrow examination.

#### BLOOD BANKING:

(15 Hrs.)

- a. Blood Group - ABO System Rh typing
- b. Cross matching, Coomb's test,
- c. Donor screening
- d. Blood transfusion & transfusion reactions
- e. Blood components

#### CLINICAL PATHOLOGY:

(15 Hrs.)

- a. Physical, chemical & microscopic examination of urine
- b. Stool examination
- c. Semen examination
- d. CSF exam. & other body fluids

#### PARASITOLOGY:

(15 Hrs.)

- a. Introduction
- b. Parasites in Blood, stool & Urine

# Microbiology

# Courses



## D.M.L.T. (Diploma in Medical Lab Technology)

### Paper - IV Pathology- II : Microbiology & Serology Histology & Cytology

Total Na. of Hrs.:-60

**MICROBIOLOGY:** (15 Hrs.)

- Classification
- Morphology of Bacteria
- Culture & isolation of bacteria
- Gram positive & gram negative cocci
- Gram positive & Gram negative bacilli
- Anaerobic spore bearing bacilli

**SEROLOGY:** (15 Hrs.)

- Antigen & Antibodies
- Diagnosis of syphilis — VDRL test
- RA test
- Diagnosis of Typhoid — Widal test

**HISTOLOGY:** (15 Hrs.)

- Fixatives
- Tissue processing, impregnation
- Block making
- Section cutting
- Types of Microtomes
- Basic staining of sections
- Collection of tissue for histology
- Method of Decalcification

**CYTOLOGY :** (15 Hrs.)

- Techniques & equipments required
- Fixatives & staining procedure
- FNAC technique
- Pap's staining



**DURATION** : 2 Yr  
**ELIGIBILITY** : 10+2 with PCB Mini. 40% Marks  
**SEATS** : 50

