



**MLT (Technician)-Syllabus**

**Theory-1<sup>1/2</sup> hrs**

**Practical-4 hrs**

| <b>Week No.</b> | <b>Theory</b>   | <b>Practical</b>        |
|-----------------|---|-------------------------|
| <b>1</b>        | <b>Intro. To Medical Tech.</b>  | <b>Intro. To Q.C</b>    |
| Day 1           | Introduction – Pathology  |                         |
| Day 2           | Responsibilities of Lab. technician                                   |                         |
| Day 3           | Lab Safety & Practical Precaution                                     |                         |
| Day 4           | Lab. Structure & Reception Collection                                 |                         |
| Day 5           | & Procedure Computer & signing authority room                         |                         |
| <b>2</b>        | <b>Method Of Blood Collection</b>                                     | <b>Blood Collection</b> |
| Day 1           | Capillary Puncture  |                         |
| Day 2           | Types of syringe, needle  |                         |
| Day 3           | Vein Puncture   |                         |
| Day 4           | Intro To Artery Puncture  |                         |
| Day 5           | Artery puncture   |                         |
| <b>3</b>        | <b>Study Of Anti-Coagulation</b>                                      | <b>Blood Collection</b> |
| Day 1           | Coagulation mechanism   |                         |
| Day 2           | EDTA, Double Oxalate Bulb   |                         |
| Day 3           | Heparin, Tri sodium citrate   |                         |
| Day 4           | Acid Citrate Dextrose   |                         |
| Day 5           | Fluoride & Plain Bulb   |                         |
| <b>4</b>        | <b>Intro. To Hematology &amp; Types of HB</b>                         | <b>HB Estimation</b>    |
| Day 1           | Blood Composition Hemoglobin Intro                                    |                         |
| Day 2           | Types of Hemoglobin(Normal Hb)  |                         |
| Day 3           | Abnormal Hb/Hb Estimation By Shali's Kit                              |                         |
| Day 4           | Estimation of Hb By CMG Method  |                         |
| Day 5           | Other Methods for Hb Estimation(PCV, Oxyhemoglobin, Specific Gravity) |                         |





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| <b>5</b>  | <b>Erythropieosis/Leucopoiesis</b>                | <b>RBCs Count/WBCs/D.C</b> कौशलम् बलम्     |
| Day 1     | Erythropieosis intro/ Sub. Necessary for it       |  |
| Day 2     | Leucopoiesis                                      |  |
| Day 3     | RBCs Total Count                                  |  |
| Day 4     | WBCs Total Count                                  |  |
| Day 5     | DC  |  |
| <b>6</b>  | <b>Indices/ESR/G6PD0</b>                          | <b>PCV/ESR/G6PD</b>                        |
| Day 1     | PCV(Pack ed Cell Volume)                          |  |
| Day 2     | Indices   |  |
| Day 3     | ESR   |  |
| Day 4     | Estimation Of ESR                                 |  |
| Day 5     | G6PD  |  |
| <b>7</b>  | <b>Hematological Diseases/Anemias</b>             | <b>SLE/Sickle Cell/RBC/Hb Estimation</b>   |
| Day 1     | Anaemia/Types of anaemias                         |  |
| Day 2     | Iron deficiency Anemia                            |  |
| Day 3     | Aplastic Anaemia                                  |  |
| Day 4     | Megaloblastic Anaemia                             |  |
| Day 5     | Sickle cell anaemia/Thalassemia                   |  |
| <b>8</b>  | <b>Leukemia's/FAB Classification</b>              | <b>WBC/DC</b>                              |
| Day 1     | Introduction                                      |  |
| Day 2     | Superficial Information                           |  |
| Day 3     | Video presentation                                |  |
| Day 4     | Classification explanation only                   |  |
| Day 5     | Revision  |  |
| <b>9</b>  | <b>Platelet &amp; Coagulation System</b>          | <b>BT/CT/PT</b>                            |
| Day 1     | Introduction & Function of Platelets              |  |
| Day 2     | Determination of Platelets                        |  |
| Day 3     | Determination of Bleeding time                    |  |
| Day 4     | Determination of Clotting time                    |  |
| Day 5     | Determination of Prothrombin time                 |  |
| <b>10</b> | <b>Carbohydrate Metabolism/Protein Metabolism</b> | <b>Glucose/Tot. Pro/Albumin Estimation</b> |
| Day 1     | Intro to Carbohydrate                             |  |
| Day 2     | Properties/Metabolism Of Carbohydrate             |  |
| Day 3     | Determination of Glucose                          |  |
| Day 4     | Protein Importance/Classification                 |  |
| Day 5     | Determination of Protein                          |  |





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| <p><b>11</b></p> <p>Day 1<br/>Day 2<br/>Day 3<br/>Day 4<br/>Day 5</p> | <p><b>Chemistry of Cholesterol/Fat/Trigly./HDL/Lipoprotein</b></p> <p>Introduction/importance of Lipid<br/>Classification<br/>Cholesterol/Trigly.<br/>Determination of Tg<br/>Determination of Cholesterol</p>                                  | <p><b>Chol./HDL/Trigly./Estimation</b></p>             |
| <p><b>12</b></p> <p>Day 1<br/>Day 2<br/>Day 3<br/>Day 4<br/>Day 5</p> | <p><b>Chemistry of Urea/Uric acid/Creatinine</b></p> <p>Kidney Structure</p> <p>Nephron Structure &amp; Urine formation<br/>Urea intro &amp; Determination<br/>Uric Acid Intro &amp; Determination<br/>Creatinine Intro &amp; Determination</p> | <p><b>Urea/Uric acid/Creatinine Estimation</b></p>     |
| <p><b>13</b></p> <p>Day 1<br/>Day 2<br/>Day 3<br/>Day 4<br/>Day 5</p> | <p><b>Chemistry Of Liver Function test</b></p> <p>Liver Structure &amp; Function<br/>Bilirubin metabolism<br/>Determination of S.Bilirubin<br/>types Of Jundice/SGPT<br/>SGOT/ALP/Thymol Turbidity</p>  | <p><b>Billirubin/SGPT/Alk.Phosphate Estimation</b></p> |
| <p><b>14</b></p> <p>Day 1<br/>Day 2<br/>Day 3<br/>Day 4<br/>Day 5</p> | <p><b>Heart Enzymes/Electrolytes</b></p> <p>Heart Structure<br/>Disease of Heart<br/>CPK,SGOT/LDH Enzyme<br/>Determination Of Enzyme<br/>Electrolytes Na,K,Ca,Cl,P</p>  | <p><b>SGOT/LDH/CPK/Isoenzymes</b></p>                  |
| <p><b>15</b></p> <p>Day 1<br/>Day 2<br/>Day 3<br/>Day 4<br/>Day 5</p> | <p><b>Automation</b></p> <p>Introduction<br/>Superficial Information<br/>Video presentation<br/>Different types explanation only<br/>Revision</p>   | <p><b>Amylase/Acid Phosphate Estimation</b></p>        |
| <p><b>16</b></p> <p>Day 1<br/>Day 2<br/>Day 3<br/>Day 4<br/>Day 5</p> | <p><b>Study Of hormones</b></p> <p>Introduction<br/>Superficial Information<br/>Video presentation<br/>Different types of hormones explanation only<br/>Revision</p>  | <p><b>Calcium/Phosphorus</b></p>                       |



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| 17 | <b>Physiology/Formation of urine/cellular Element</b><br>Day 1 Intro/Structure of Kidney Nephron<br>Day 2 Structure of Nephron<br>Day 3 Urine Formation<br>Day 4 Chemical Examination<br>Day 5 Microscopic examination                     | Urine analysis/Urine microscopic      |
| 18 | <b>Parasitology /Blood Parasitology</b><br>Blood Parasite<br>Day 1 Life Cycle Of Parasite (Malarial)<br>Day 2 Other Parasite / determination of Parasite<br>Day 3 introduction of stool analysis<br>Day 4 microscopic (ova, cyst)<br>Day 5 | Stool/Blood Analysis                  |
| 19 | <b>Blood Banking/Cross Matching</b><br>Day 1 Type of Donor<br>Day 2 Criteria Selection<br>Day 3 Blood collection Procedure<br>Day 4 Labeling Safety<br>Day 5 Blood Group/Cross match   | Diff ABO Blood Group                  |
| 20 | <b>Hemolytic Disease Of New Born</b><br>Day 1 Introduction<br>Day 2 Superficial Information<br>Day 3 Video presentation<br>Day 4 Rh. Factor of Blood Grouping<br>Day 5 Coombs' Test  | Coomb's Test/Rho GAM                  |
| 21 | <b>Importance Of Each blood Component</b><br>Day 1 Introduction<br>Day 2 Superficial Information<br>Day 3 Video presentation<br>Day 4 Different types explanation only<br>Day 5 Revision   | Aphaeresis                            |
| 22 | <b>Serology</b><br>Day 1 Intro, Defense Mechanism<br>Day 2 Widal<br>Day 3 VDRL<br>Day 4 RA,ASO,CRP<br>Day 5 Pregnancy  | VDRL/Widal/RA<br>Latex/Pregnancy Test |





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| <b>23</b>    | <b>Immunology</b>                           | <b>HbsAg/Anti</b>                     |
| Day 1        | Immunity                                    | <b>Streptolysin/Mono/HCBG</b>         |
| Day 2        | Vaccination                                 |                                       |
| Day 3        | HbsAg/Antistreptolysin                      |                                       |
| Day 4        | Mono  |                                       |
| Day 5        | HCBG  |                                       |
| <b>24</b>    | <b>Introduction to ELISA/TORCH/HIV</b>      | <b>HIV/Estimation of IgG, IgA etc</b> |
| Day 1        | Intro. ELISA                                |                                       |
| Day 2        | direct ELISA                                |                                       |
| Day 3        | indirect ELISA                              |                                       |
| Day 4        | TORCH test                                  |                                       |
| Day 5        | HIV Intro                                   |                                       |
| <b>25</b>    | <b>Histopathology/Cytology</b>              |                                       |
| Day 1        | Introduction                                |                                       |
| Day 2        | Superficial Information                     |                                       |
| Day 3        | Video presentation                          |                                       |
| Day 4        | Different types of samples explanation only |                                       |
| Day 5        | Revision                                    |                                       |
| <b>26</b>    | <b>Body Fluids</b>                          | <b>Examination of Body Fluids</b>     |
| Day 1        | CSF/Semen                                   |                                       |
| Day 2        | Sputum                                      |                                       |
| Day 3        | Urine/stool                                 |                                       |
| Day 4        | Cavity Fluid Intro/Peural/Pericardial       |                                       |
| Day 5        | Peritoneal/Synovial                         |                                       |
| <b>27 to</b> | <b>On Job Traininig</b>                     |                                       |
| <b>51</b>    |   |                                       |
| <b>52</b>    | <b>Examination</b>                          |                                       |

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