ANNEXURE – A

SYLLABUS FOR LABORATORY TECHNICIAN (BLOOD)	MARKS
A. BIOCHEMISTRY	**25**
1. General Biochemistry: ➢ Normal/ Molar Solutions/Equivalent/Molecular wt., PH, Buffer. ➢ Biochemical test-pre 7Post Dialysis Patients. ➢ Normal range determination & Normal range of Biochemical parameters. ➢ Proper sample collection, processing and transport of different biochemical specimen ➢ Quality control and errors in methodology, Waste disposal, safety measure. ➢ Anticoagulant related with Biochemical test. **2. Basic Knowledge regarding instruments:** ➢ Colorimetry, Spectrophotometry. ➢ Auto-analyzers. ➢ Electrolyte analyzers. ➢ Chromatography/HPLC. ➢ Computerization. ➢ Electrophoresis. ➢ Arterial Blood gas analyzer (ABG). ➢ ELISA Technique. ➢ CLIA. **3. Clinical Biochemistry:** ➢ For blood, urine, CSF & other body fluids. ➢ Analysis of Common biochemical parameters-EG Sugar, Urea, Creatinine, Electrolytes etc. ➢ Analysis of different profiles-Liver heart, Kidney, Thyroid, Iron etc. ➢ Special Biochemistry Test. ➢ Cancer marker. ➢ Estimation of Hormones, Vitamins. ➢ Fertility profile.	
B. MICROBIOLOGY	**30**
1. General Microbiology: ➢ Microscope parts, handling and care. ➢ Staining techniques. ➢ Culture media, preparation of media and sterilization. ➢ Instruments and their maintenance. **2. Basic Laboratory practices:** ➢ Sterilization and disinfection. ➢ Hospital infection control practices. ➢ Biomedical waste management. **3. Systemic Bacteriology:** ➢ Sample inoculation in culture media. ➢ Antimicrobial sensitivity test. ➢ Gram positive organisms. ➢ Gram Negative organisms. **4. Water Microbiology:** **5. Applied Microbiology.** ➢ Sample collection, sample processing. ➢ Quality management. **6. Parasitology:** ➢ Malaria. ➢ Stool examination for OVA, Parsites and cyst. **7. Mycology:** ➢ Sample collection. ➢ Mycological investigation Techniques – KOH mount, Fungal culture methods, Lacto phenol cotton blue (LPCB) mount. **8. Virology:** ➢ Blood borne viruses. ➢ Victor borne viruses. ➢ Viruses cause in Acute Flaccid Paralysis. ➢ Viruses causing Acute Encephalitis Syndrome. ➢ Viruses causing Acute Diarrheal Diseases. ➢ Human Immunodeficiency Virus (HIV). **9. Outbreak Prone diseases:** ➢ Cholera. ➢ Plague. ➢ Influenza. ➢ COVID – 19. ➢ Ebola virus disease (EVD).	

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C. PATHOLOGY	30
1. Outbreak Prone diseases: ➢ Collection, Transport, Preservation and Processing of Lab-Test-Samples. ➢ Urine Examination – Collection and Preservation of urine. ➢ Physical, Chemical, Microscopic Examination. ➢ Sputum Examination for cytology – preparation of smear. **2. Haematology:** ➢ Definition and Classification of anaemia. ➢ Laboratory investigation for iron deficiency anaemia. ➢ Laboratory investigation for haemolytic anaemia including classification and causes. ➢ Leukaemia definition and classification. ➢ Cytochemical staining procedures in various haemoploeyic disorders. ➢ Laboratory tests for assessing bleeding disorders. ➢ Blood banking procedure – Organization and management of Blood banking collection, preservation and transportation and storage of blood, Anticoagulants used, screening of collected blood, Technique of separation of blood components, Cross matching principles and theirs importance, coomb's test for incomplete antibodies, different blood components in use and how to serve a requisition, Blood transfusion, complications of blood transfusions, Post – transfusion, different blood components in use and how to serve a requisition, Blood transfusion, complications of blood transfusions, Post – transfusion testing. Quality control in blood banking. ➢ Basic knowledge on constituents of Blood, cellular morphology and functions. Anticoagulants. ➢ Knowledge on various instruments and glassware used in Hematology laboratory(Lab.) ➢ Lab. Safety measures. ➢ SI units and conventional units in Hospital Laboratory. ➢ Hb, PCV, ESR. ➢ Blood smear preparation and staining including cytochemical stain. ➢ TLC, DLC, Platelet count, RBC count. ➢ Absolute Eosinophil count. ➢ Reticulocyte count. ➢ Calculation of Red cell indices. ➢ Sickling test. ➢ Osmotic fragility test. ➢ Demonstration of LE cells. ➢ Basics of Automated Hematology cell counter. ➢ Basics of Haemostasis. ➢ Bleeding Time, Clotting Time, Prothrombin Time, Activated Partial. ➢ Thromboplastin Time. **3. Cytology:** ➢ Normal cell structure & functions. ➢ Instruments in Cytology. ➢ Types of specimens, methods of collection & preparation of smears. ➢ Different fixatives and methods of fixation. ➢ Staining: Papanicolaou's stain – principle, preparation and staining techniques May Grunwald Giemsa stain H & E stain Special stains used in Cytology. **4. Histopathology:** ➢ Receiving of Specimen in the laboratory, Maintenance of records and filling of the slides. ➢ Use & care of Microscope, Various Fricatives, Mode of action, Preparation. ➢ Grossing Techniques. ➢ Microtome, Microtome-knives, Knife sharpener. ➢ Freezing microtome and Cryostat. ➢ Section Cutting. ➢ Tissue processing for routine paraffin sections. ➢ Decalcification of Tissues. ➢ Staining of tissues – H & E Staining. ➢ Mounting Techniques – various Mountants. ➢ Bio-Medical waste management. ➢ Basics of Automated Tissue Processor. ➢ Special stains used in Histopathology.	
Total Written Examination	85
Grand Total	**85**

Signed by
Dipa Debbarma
Date: 10-12-2024 12:20:23
Under Secretary to the
Government of Tripura