Annexure-A

Syllabus and Marks

A. BIOCHEMISTRY : Marks : 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.

4. Special Biochemistry Test
- Cancer marker
- Estimation of Hormones, Vitamins
- Fertility profile.

B. MICROBIOLOGY Marks : 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,Parasites 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
- Vector 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)

C. PATHOLOGY Marks 30

Clinical Pathology :

- Collection, Transport, Preservation, and Processing of Lab-Test-samples
- Urine Examination – Collection and Preservation of urine.
  Physical, chemical, microscopic Examination.
- Examination of CSF and other body fluids.
- Sputum Examination for cytology – preparation of smear..

Haematology

- Collection of Blood samples
- 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 stains.
- TLC, DLC, Platelet count, RBC count.
- Absolute Eosinophil count
  Reticulocyte count
- Calculation of Red cell Indices
- Sickling tests
- Osmotic fragility test
- Demonstration of LE cells.
- Basics of Automated Hematology cell counter
- Basics of Haemostasis.
- Bleeding Time, Clotting Time, Prothrombin Time, Activated Partial
- ThromboplastinTime.

Cytology

- Normal cell structure & functions.
- Instruments in Cytology
- Types of specimens, methods of collection & preparation of smears.
- Different fixatives and methods of fixation
- Staining :Papanicoloau's stain- principle , preparation and staining techniques May GrunwaldGiemsa stain H & E stain Special stains used in Cytology.

Histopathlogy

- Receiving of Specimen in the laboratory
- Maintenance of records and filing of the slides.
- Use & care of Microscope
- Various Fixatives, 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.

Blood Banking :

- Blood grouping and Rh Typing.
- Cross matching - principle and procedure.

30/8/22

Deputy Secretary to the