



PATHOLOGY TECHNOLOGY
DIPLOMA 2ND, 3RD AND 4TH SEMESTER

HAFEEZ INSTITUTE OF MEDICAL SCIENCES PESHAWAR

CURRICULUM 2nd SEMESTER

1. HEMATOLOGY

- Introduction to Hematology
- Regents and Equipments used
 - HB% estimation, RBC, WBC, Platelets Counts
 - Staininn: Peripheral smear. (Giemsa Staining), R... count, Bons Marrow Smear.

2. CHEMICAL PATHOLOGY

- Introduction to chemical pathology
- Measurements. {Length, Volume, Weight, Cocentration. (Molarity, normality, et. W/W Solution, W/V Solution).
- Principal of instruments used in biochemical tests.
 - i. **Flask**
 - a. **Conical**
 - b. **Round based**
 - c. **Rectors**
 - d. **Graduated**
 - e. **Hard glass.**
 - ii. **Test Tube**
 - iii. **Pipits**
 - iv. **Covets**

3. HISTOPATHOLOGY:

- Introduction to Histopathology
- Normal Histology of:
 - i. Simple Epithelium
 - a. Squamouns
 - b. Columnar
 - Ciliated
 - Non-ciliated
 - c. Cuboidal
 - i. Stratified

4. MICROBIOLOGY

- Introduction to Microbiology
- Classification of Bacteria
- Description of bacteria
- Common pathogenic bacteria(Enumeration of Respiratory tract, GIT, Skin, Urinary Tract, Gential Tract)

CURRICULUM 3rd SEMESTER

1. HEMATOLOGY:

- ❖ Leukocytes morphology and counts
- ❖ Platelets
- ❖ Leukemia's
- ❖ Blood coagulation
- ❖ Blood Banking.
 - i. Introduction
 - ii. Temperature Maintenance
 - iii. Record Keeping
 - iv. Donors Selection
 - v. Venepuncture and Blood Collection
 - vi. Labeling and Storage
 - vii. Patients Blood Collection
 - viii. Blood Grouping
 - ix. Cross Matching
 - x. Screening of Donors Blood (for HIV, HBs, HCV)

2. CHEMICAL PATHOLOGY:

- ❖ Acids/Bases
- ❖ Buffers, Concentration Units
- ❖ Urinalysis

Biochemistry:

- Sugar
- Albumin
- Bile Salts, Pigments

❖ Blood Chemistry

- Parameters in Blood Chemistry
- Normal Values
- End-point and Kinetic Measurements
- Serum/Plasma Separation
- Protein Precipitants to obtain protein free fluid (PFF)
- Changes in blood Chemistry on storage of sample and preservation

3. HISTOPATHOLOGY:

- ❖ Routine Histopathology Techniques

4. MICROBIOLOGY

- ❖ Introduction to Virology
- ❖ Introduction to Serology
- ❖ Introduction to Immunity and Hypersensitivity.

CURRICULUM 4th SEMESTER

1. HEMATOLOGY:

- ❖ Blood Bank
 - i. Space
 - j. Staff Requirements
 - k. Equipments
- ❖ Haemaglutivation reaction
- ❖ Antigens
- ❖ Blood group system
- ❖ Blood transfusion reaction
- ❖ Quality control
- ❖ Bio-Safety measures
- ❖ Review

2. CHEMICAL PATHOLOGY

- ❖ Assay Techniques and Principals
- ❖ Examination of Body Fluids
- ❖ Quality control
- ❖ Bio-Safety measure

3. HISTO PATHOLOGY:

- ❖ Practical work in Hiso Pathology
- ❖ Quantity control
- ❖ Bio-Safety measure

4. MICRO BIOLOGY:

- ❖ Autoimmune diseases immunization
- ❖ Para cytology
- ❖ Mycology
- ❖ Quality Control