B.Sc.(M.L.T.) [1st Year]

BF/2009/07

Fundamentals of Applied Histopathology/Histology

M.M. : 100 Time : 3 Hours

Note : *Attempt all questions.*

1. Classify Fixatives, factors involved in fixation and one example of each. [20]

2. **Write short notes on**: [2x10=20]
   a. Types of Muscles and their differences.
   b. Draw and describe a Sarcomere in detail.

3. **Write short notes on**: [3x6=18]
   a. Osteon.
   b. Juxta Glomerular apparatus.
   c. Differences of Small and Large intestine.

4. **Write notes on**: [2x6=12]
   a. How will you obtain stain and interpret a buccal smear.
   b. Processing and staining of Pleural fluid for malignant cells.

5. a. **Write preparation of any 3 of the following solutions**: [4x3=12]
      i) 1% acid alcohol.
      ii) Scotts tape water.
      iii) 10% Neutral buffered formalin.
      iv) Bouins fluid.

   b. **Write short notes on**: [3x6=18]
      i) Cyte centrifuge.
      ii) Mounting of specimens.
      iii) Decalcification procedures.

B.Sc.(M.L.T.) [1st Year]

BF/2009/07

Basic Principles of Biochemistry

M.M. : 100 Time : 3 Hours

Note : *Attempt any* **10[TEN]** *questions.*

1. a. What are buffers and how they work. Mention various body buffers. [05]
   b. Write the uses of pH indicators. [05]

2. **Write briefly on**: [10]
   a. Osmosis.
   b. Dialysis.

3. What are Radio-isotopes? What are hazards related to them and write their use in biochemistry lab. [10]

4. What type of laboratory hazards are there for technicians in biochemistry lab? What precautions should be taken to prevent them. [10]

5. Differentiate between Serum and Plasma. Discuss all the steps of obtaining them both. [10]

6. a. Enumerate Waste disposal bag colour codes and mention for which type of waste they are used. [05]
   b. Discuss briefly the hazards of improper waste disposal. [05]

7. Enumerate Ketone bodies. Describe the qualitative test for Ketone bodies in urine and write the causes of ketonuria. [10]

8. What is a Normal solution. Describe the steps of preparing 2 N HCl. [10]

9. Enumerate various Glassware used in biochemistry lab and discuss, how they are washed and dried. [10]

10. Describe different methods of preparation and storage of distilled water. [10]

11. What is a Percent solution. How will you make 10 mg% solution of Na_2CO_3. [10]

B.Sc.(M.L.T.) [1st Year]

BF/2009/07

Basic Techniques in Laboratory Haematology

M.M. : 100 Time : 3 Hours

Note : **Q.No. 10** is **COMPULSORY.** Attempt any **EIGHT** questions out of other **NINE** questions.

1. Discuss in brief the composition of Blood. [10]

2. Describe the physiological variations in Haemoglobin(Hb) and Packed Cell Volume(PCV). [10]

3. Define Anticoagulants. Enumerate the commonly used anticoagulants and their mode of action. [10]

4. Discuss Safety measures to be followed in a laboratory. [10]

5. Enumerate the methods for estimation of ESR. [10]

6. Describe the various methods of estimation of Haemoglobin. [10]

7. Quality assurance in Haemtology. [10]

8. Describe the procedures for Total Leucocyte Count[TLC]. [10]

9. Discuss the advantages of Blood cell counters. [10]

10. **Write short notes on**:
    a. Eosinophil. [5]
    b. Protein estimation in urine sample. [5]
    c. Giemsa stain. [5]
    d. Increased Neutrophils in CSF. [5]

B.Sc.(M.L.T.) [1st Year]

BF/2009/07

General Microbiology

M.M. : 100 Time : 3 Hours

Note : *Attempt all questions.*

1. Define the terms Sterilization, Disinfection and Atnisepsis. Name various methods used for Sterilization. Discuss the role of Moist heat in sterilization. [15]

2. **Tabulate the difference between**: [3x5=15]
   a. Prokaryotes and Eukaryotes.
   b. Flagella and Fimbria.
   c. Enriched and Enrichment media.

3. Describe the bacterial growth curve along with a neatly labeled diagram. [10]

4. **Write short notes on**: [3x5=15]
   a. Transport media.
   b. Blood agar.
   c. Spore.

5. **Write brief notes on the following**: [3x5=15]
   a. Characteristics of Antigen-antibody reactions.
   b. IgM antibody.
   c. Prozone phenomenon.

6. **Write short notes on the followings**: [3x10=30]
   a. Contributions of Robert Koch.
   b. Ziehl-Neelson stain.
   c. Compound Microscope.
