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B.Sc.(M.L.T.) [1st Year]
BF/2007/12

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. Describe formation of blood cells. [10]
 2. Preparation and staining of peripheral blood smear. [10]
 3. Universal precautions in haematology laboratory. [10]
 4. Describe red cell variations on a peripheral blood smear. [10]
 5. Total Leucocyte count. [10]
 6. Tests for Ketone bodies. [10]
 7. Manual reticulocyte count. [10]
 8. Instructions for sample collection for semen analysis. [10]
 9. **Draw diagrams of :** [2x5=10]
 - a. Instrument for specific gravity of urine.
 - b. Urinary casts.
 10. **Write in brief about:** [4x5=20]
 - a. Mechanism of action of Anticoagulants.
 - b. Normal components of Cerebrospinal fluid.
 - c. Estimation of Urinary sugar.
 - d. Errors in manual platelet counts.
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**Fundamentals of
Applied Histopathology/Histology**

M.M. : 100

Time : 3 Hours

Note : Attempt all questions. Draw suitable diagrams wherever necessary.

1. Types of Microtomes and their advantages and disadvantages. [20]
 2. Describe the structure and functions of Kidney. [20]
 3. **Write notes on:** [3x6=18]
 - a. Structure and functions of Pituitary gland.
 - b. Functions of Lymph node.
 - c. Functions of White blood cells.
 4. **Write short notes on:** [2x6=12]
 - a. Draw a labelled diagram of compact bone.
 - b. Structure and functions of Alveoli.
 5. **Write short notes on:** [3x6=18]
 - a. Types of Hematoxylin along with their advantages and disadvantages.
 - b. Types of decalcification and special precautions.
 - c. Artefacts in Histopathology.
 6. **Write short notes on:** [2x6=12]
 - a. Role of controls in staining procedures.
 - b. Silver stains and their uses.
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General Microbiology

M.M. : 100

Time : 3 Hours

Note : Attempt all questions.

1. Discuss anaerobic culture methods. [15]
 2. **Tabulate the differences between:** [3x5=15]
 - a. Gram positive and Gram negative cell wall.
 - b. Endotoxins and Exotoxins.
 - c. Agglutination and Precipitation reactions.
 3. Discuss the mechanism of action of various antibacterial agents. [10]
 4. **Describe the preparation and application of the following culture media:** [3x5=15]
 - a. Blood agar.
 - b. Lowenstein - Jensen medium.
 - c. Loeffler's serum slope.
 5. **Write brief notes on the following:** [3x5=15]
 - a. Interferons.
 - b. Peripheral blood film of P. vivax.
 - c. Universal work precautions in laboratory.
 6. **Write notes on the following:** [3x10=30]
 - a. Acid Fast Bacilli staining [AFG staining].
 - b. ELISA.
 - c. Life cycle of Ascaris lumbricoides.
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B.Sc.(M.L.T.) [3rd Year]
BF/2007/12

Applied Haemtology

M.M. : 100

Time : 3 Hours

Note: Attempt all questions.

1. Describe the investigations in a patient with Chronic myeloid leukemia. [15]
 2. Describe in brief the laboratory tests in a patient with transfusion reaction. [15]
 3. **Write short notes on any TWO of the following:** [10+10]
 - a. Reticulocyte count.
 - b. APTT.
 - c. Acute promyelocytic leukemia.
 4. Laboratory investigations in a patient with profuse bleeding after delivery. [15]
 5. Enumerate the precautions to be taken for sampling and processing for platelet function test. [15]
 6. Describe briefly techniques available for Cytogenetic studies. [10]
 7. Radioisotopes used for hematological investigations. [10]
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B.Sc.(M.L.T.) [3rd Year]
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Special Histology & Histochemical methods

M.M. : 100

Time : 3 Hours

Note: Attempt any TEN questions.

1. Discuss the structure of Amyloid and its staining reaction. [10]
 2. Discuss the methods employed for demonstration of M. tuberculosis in tissue sections. [10]
 3. Discuss the principle and working of Fluorescence microscope. [10]
 4. Classification and staining of Mucins. [10]
 5. Role of HLA in Kidney transplantation. [10]
 6. Role of T-cells in immune response. [10]
 7. Laboratory precautions in handling of HIV infection specimens. [10]
 8. Hormonal assessment with Cervical Cytologic techniques. [10]
 9. Structure, functions and pathology of IgE. [10]
 10. Processing and histochemistry of muscle biopsy. [10]
 11. Write short note on Chronic inflammation. [10]
 12. Laboratory diagnosis of SLE. [10]
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B.Sc.(M.L.T.) [3rd Year]
BF/2007/12

Clinical Biochemistry methods

M.M. : 100

Time : 3 Hours

Note: Attempt all questions.

1. Enumerate various methods for estimation of Serum proteins. Give the principle, procedure, normal values and interpretation of the results. [Give detail of method you have done] [20]
 2.
 - a. Write a note on Gastric analysis and its clinical importance. [10]
 - b. What is Glucose tolerance test? How will you interpret results of GTT.? [10]
 3. Give the principle, procedure, normal value & interpretation of Serum bilirubin. Add note on S. Enzymes which are relevant to be carried out along with S. bilirubin. [20]
 4. How will you proceed for the estimation of various biochemical parameters in Stone analysis? [20]
 5. **Write short notes on any TWO:**
 - a. Role of Lab. Technician in Lab organization & management. [10]
 - b. Clinical importance of Serum Calcium. [10]
 - c. Clinical importance of Lactate dehydrogenase. [10]
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B.Sc.(M.L.T.) [3rd Year]
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Applied Microbiology

M.M. : 100

Time : 3 Hours

Note: Attempt all questions.

1. Define hospital associated infection[HAI]. Enumerate organisms causing HAI. Discuss prevention of HAIs. [20]
 2. Laboratory diagnosis of Urinary tract infections. [10]
 3. Write short notes on: [2x5=10]
 - a. ELISA.
 - b. VDRL.
 4.
 - a. Laboratory diagnosis of Dermatophytosis. [10]
 - b. Automation in Microbiology. [10]
 5. Write briefly about: [2x10=20]
 - a. Inclusion bodies.
 - b. Lysogenic conversion.
 6. Write short notes on: [2x10=20]
 - a. Bilharziasis.
 - b. Life cycle of Fasciola hepatica.
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