M.Sc. [Medical Biochemistry]

BF/2006/11

Molecular Biology

[Paper - I]

M.M. : 100 **Time : 3 Hours**

Note : Attempt all questions.

1. **Explain briefly**:
   a. Various mechanisms to regulate genetic expression in Eukaryotes. [10]
   b. Plasmids and their role in genetic engineering. [10]
   c. Zinc fingers. [5]

2. **Write short notes on::**
   a. Genetic Code. [6]
   b. Mutation. [8]
   c. Replacement fork. [5]
   d. Nucleosome assembly. [6]

3. **Discuss**:
   a. Pre initiation Complex in transcription describing Cofactors & Activators. [7]
   b. DNA damage & repair mechanism. [6]
   c. Protein synthesis in Eukaryotes and site of action of inhibitors of protein synthesis. [12]

4. **Write short notes on the following**:
   a. PCR and its application in medicine. [9]
   b. Protein folding diseases. [7]
   c. DNA Polymerases. [5]
   d. Types of DNA. [4]

M.Sc. [Medical Biochemistry]

BF/2006/11

Immunochemistry

[Paper - II]

M.M. : 100 **Time : 3 Hours**

Note : Attempt Nine questions in all. Q.No. 1 is compulsory.

1. **Write short notes on[Any four]:** [5x4=20]
   a. Isotypes. b. Monoclonal antibodies.
   c. Secondary Immunodeficiency d. Heptan.
   e. Rh iso-immunization.

2. Describe the basic structure of an Immunoglobulin molecule. [10]

3. What is Immunopotency and immune suppression. Describe the factors that influence it. [10]

4. Classify Immunoglobulins. Discuss the structural features of at least two types of Immunoglobulins. [10]

5. Describe different complement pathways and mechanism of their activation. [10]

6. Explain the principle of Immunoelectrophoresis, illustrating its use in clinical medicine. [10]

7. What are the antigenic determinants and discuss their role in immune response. [10]

8. Discuss the features in Primary and Secondary immune response. [10]

9. Briefly discuss the immunological funtion of Thymus. [10]

10. Briefly describe the antibody dependant cell mediated Cytosis. [10]

11. Discuss briefly various Immunodeficiency states. [10]

12. What is Hyper Gamma Globulinemia? Examplify it with two diseases, having difference in the immune status. [10]

M.Sc. [Medical Biochemistry]

BF/2006/11

Nutrition & Dietetics

[Paper - III]

M.M. : 100 **Time : 3 Hours**

Note : Attempt all questions.

1. **Write short notes on:** [5x5=25]
   a. Protein Energy Malnutrition.
   b. BMI.
   c. Foot Poisoning.
   d. Respiratory Quotient.
   e. Hydrogenated vegetable oils.

2. a. Write in details about Vitamin A. [10]
   b. Discuss about dietary control of a 45 years old type-2 diabetes mellitus female patient with a BMI of 27. [8]
   c. Write about importance of iodine in our diet. [7]

3. a. Write in details about daily diets of a vegetarian, 27 yrs old lactating mother with a BMI of 24. [10]
   b. Discuss about nutritional requirements of a 63 yrs old ex-serviceman. [10]
   c. Nutritional importance of Zinc & Copper. [5]

4. a. Discuss in details about food supplementation. [10]
   b. Write about various Toxicants in food. [8]
   c. Write a note in brief about Nutrition and Fertility. [7]

M.Sc. [Medical Biochemistry]

BF/2006/11

Clinical Biochemistry and Medical Statistics

[Paper - IV]

M.M. : 100 **Time : 3 Hours**

Note : Attempt all questions.

1. Discuss various Renal function tests. [15]

   Discuss alterations in Renal functions in Chronic Renal failure. [10]

2. a. Discuss the various quality control measures in clinical laboratory. [15]

   b. Write a note on Hyperuricemia. [10]

3. **Write briefly on:**

   a. Hartnups disease. [6]

   b. Tests of Malabsorption. [7]

   c. Radioimmunoassay. [6]

   d. Oroticaciduria. [6]

4. **Write the laboratory findings in the following disorders:**

   a. Cushing syndrome. [6]

   b. Diabetic Ketoacidosis. [7]

   c. Obstructive Jaundice. [6]

   d. Von Gierkes disease. [6]