**M.Sc. [Medical Biochemistry]**

**BF/2011/11**

# Molecular Biology

#  [Paper - I]

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

*Note : Attempt all questions.*

*1. What is recombinant DNA Technology. Express in detail all its applications.*

 *[25]*

2. **Write Short Notes on** :-

 (a) Telomere. [8]

 (b) Transposons. [8]

(c) Frame Shifts mutation. [9]

3. **What do you mean by** :-

 (a) hn – RNA. [9]

 (b) si – RNA. [8]

 (c) sn – RNA. [8]

4. **Write Note on** :-

 (a) Pribnow – Box. [5]

(b) TATA Box. [5]

 (c) Lac. operon. [10]

(d) DNA Foot printing. [5]

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# Immunochemistry

#  [Paper - II]

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

*Note : Attempt all questions.*

*1.* ***Describe the following terms*** *: [3x5=15]*

 *(a) Epitope*

 *(b) Immunogen*

 *(c) Hapten*

2. Describe the antigen-antibody response to a skin graft received from another person. [15]

3. How does the human immune system “learn”. What is a foreign antigen and

 what is normal self antigen? [15]

4. List the tissues of the Lymphoid system. Which ones are considered primary

 tissues ? Which are considered secondary ? 15]

5. Discuss the role of interferon in fighting a viral infection and cancer formation.

 [15]

6. **Explain the following** : 2x5=10]

 (a) Autoimmunity.

 (b) Anti-idiotypic antibodies.

7. Explain flow-cytometry and discuss its role in antigen-antibody interactions.

 [15]

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# Nutrition & Dietetics

# [Paper - III]

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

*Note : Attempt all questions.*

1. Describe in detail rich sources, body distribution, RDA, absorption and transport of Iron. Add a note on `Bantu’s Siderosis’. [20+5=25]

2. (a) Describe the metabolic adaptations occurring in the body during prolonged starvation. [15]

 (b) Describe the chemical nature of dietary fibres and their role in nutrition. [10]

3. (a) Describe the role of calmodulin in calcium homeostasis. [10]

 (b) Describe the biochemical role and deficiency features of Vitamin C. [10]

4. **Write notes on** :

(a) Marasmus and Kwashiorkor. ` [10]

(b) Direct & Indirect Calorimetry. [10]

(c) Pellagra Preventing Factor. [10]

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# Clinical Biochemistry and Medical Statistics

# [Paper - IV]

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

*Note : Attempt all questions.*

1. **Write briefly** :

 (a) Isoenzyme and their clinical use. [10]

 (b) Dyslipidemia causes and their health impact. [10]

 (c) Role of Selenium in body. [5]

2. **Discuss briefly** :

(a) Essential amino acids and inborn errors associated with them. [10]

(b) Metabolic disorders causing cataract. [10]

(c) BMI and its clinical significance. [5]

3. (a) Principle, types and clinical use of ELISA. 10]

 (b) Biochemical parameters to assess clearance and renal function test.

[10]

(c) ANOVA. [5]

4. **Discuss briefly** :

(a) Diagnostic tools to assess deficiency of Vitamins. [10]

(b) Iso electric focussing and its applications. [10]

(c) External Quality Control [5]

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