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Name.....

Reg. No.....

**FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2017**

(CUCBCSS—UG)

Microbiology

MBY 5B 11—IMMUNOLOGY

Time : Three Hours

Maximum : 80 Marks

*(Draw diagrams wherever necessary)*

**Part A**

**I. Choose the correct answer :**

- 1 A systemic autoimmune disease is :  
(a) IDDM. (c) Myasthenia gravis.  
(b) SLE. (d) Grave's disease.
- 2 The antibody present in highest concentration in normal human sera is :  
(a) IgG. (c) IgM.  
(b) IgE. (d) IgA.
- 3 The cells involved in the antigen presentation to  $T_H$  cells is :  
(a) Neutrophils. (c) Eosinophils.  
(b) Hepatocytes. (d) Macrophages.
- 4 An example for type III hypersensitivity is :  
(a) Erythroblastosis foetalis. (c) Hay fever.  
(b) Tuberculosis. (d) Arthus reaction.

**II. Fill in the blanks :**

- 5 \_\_\_\_\_ is defined as the lowest concentration of antibody in the sample giving visible antigen-antibody interaction.
- 6 MHC restriction is associated with \_\_\_\_\_ lymphocytes.
- 7 The substrate used in ELISA system based on HRP conjugate is \_\_\_\_\_.
- 8 Clonal selection theory was put forwarded by \_\_\_\_\_.

**Turn over**

**III. Answer in one word :**

- 9 The hypervariable region of immunoglobulins are also called as :
- 10 The predominant antibody produced during primary immune response is :
- 11 The site of haematopoiesis in human body is :
- 12 Name the media used for the selection of hybrid cells in hybridoma technology.

(12 × ½ = 6 marks)

**Part B**

*Answer all of the following in two to three sentences.*

*Each question carries 2 marks.*

- 13 Coomb's test.
- 14 Follicular dendritic cells.
- 15 MALT.
- 16 Phagocytosis.
- 17 Plasma cells.
- 18 Immunological tolerance.
- 19 Hinge region.
- 20 Epitope.
- 21 Adjuvants.
- 22 Booster dose.

(10 × 2 = 20 marks)

**Part C**

*Write short notes on any six of the following.*

*Each question carries 5 marks.*

- 23 Inflammation.
- 24 Subpopulations of lymphocytes.
- 25 Immunotherapy to tumours.
- 26 Classical pathway of complement activation.

- 27 Classification of antigens.
- 28 Immunofluorescence.
- 29 Organ specific autoimmune diseases.
- 30 Complement fixation test.

(6 × 5 = 30 marks)

**Part D**

*Write essays on any two of the following.  
Each question carries 12 marks.*

- 31 Discuss the mechanism of allograft rejection. What are the strategies used to avoid graft rejection reactions in a host.
- 32 Describe the structure of an immunoglobulin. Discuss how this structural model explains the functions of immunoglobulin.
- 33 Define hypersensitivity reaction. Describe the mechanism of type I hypersensitivity reactions.

(2 × 12 = 24 marks)