

This question paper contains 3 printed pages.

Your Roll No.

IC

S. No. of Paper : 2602

Unique Paper Code : 42237904

Name of the Paper : Immunology

Name of the Course : B.Sc. Life Sciences : DSE-3B

Semester : VI

Duration : 3 hours

Maximum Marks : 75

(Write your Roll No. on the top immediately
on receipt of this question paper.)

Attempt five questions in all.

Question No. 1 is compulsory.

1. (A) Define:

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- i. Opsonin
- ii. Avidity
- iii. Adjuvant
- iv. Anaphylatoxin
- v. Hematopoiesis

(B) Differentiate between the following:

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- i. Active and Passive Immunity
- ii. Primary and Secondary Immune response
- iii. Exogenous and Endogenous antigens
- iv. Polyclonal and Monoclonal Sera
- v. Innate and Adaptive Immunity

P. T. O.

(C) Write the contribution/s of the following scientists: 2

- i. Cesar Milstein and Georges E. Köhler
- ii. Jules Bordet

(D) Expand the following: 3

- i. HLA
- ii. GM-CSF
- iii. ADCC
- iv. MAC
- v. RIA
- vi. CDR

(E) Write the immunological significance of the following: 4

- i. Interferons
- ii. Bursa of Fabricius
- iii. CLIP
- iv. Rheumatoid Factor

(F) Give reasons: 3

- i. Burn victims are more prone to infections.
- ii. IgA survives the proteolytic degradation in GI tract.
- iii. Self antigens do not produce immune response in normal persons.

2. (a) Describe the basic structure of an antibody. How was the structure of antibody deduced? 8

(b) Differentiate between T cell and B cell epitopes. 4

3. (a) Describe Gell and Coomb's classification of hypersensitivity with suitable examples. 6

(b) Describe the process of Hematopoiesis with a diagram with examples from myeloid and lymphoid lineages. 6

4. (a) Differentiate between primary and secondary lymphoid organs. Write a note on structure and function of spleen. 6
- (b) Briefly discuss major types of vaccines with appropriate examples. 6
5. (a) Describe the formation of MAC through classical pathway of complement activation. 6
- (b) What is a hapten? Describe the factors which determine immunogenicity. 6
6. (a) Illustrate and discuss the cytosolic pathway for processing antigen. 6
- (b) How does Clonal Selection theory justify the four cardinal features of adaptive immune response? 6
7. Write short notes: (any *three*) 4,4,4
- a) Innate immune barriers
 - b) Immunodeficiency
 - c) Cytokines
 - d) Antigen-Antibody interaction as tools in research and diagnosis.