

This question paper contains 3 printed pages]

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S. No. of Question Paper : 5867

Unique Paper Code : 2232583601

Name of the Paper : Immunology and Immunotechnology

Name of the Course : B.Sc. (Prog.) Applied Life Science with Agrochemical
and Pest Management

Semester : VI

Duration : 2 Hours

Maximum Marks : 60

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

Attempt four questions in all.

Question No. 1 is compulsory.

1. (a) Define the following terms : 4
- (i) Immunogen
 - (ii) Hapten
 - (iii) Opsonisation
 - (iv) Haemagglutination
- (b) Differentiate between the following (any three) : 6
- (i) Monoclonal and Polyclonal antibody
 - (ii) Primary and Secondary immune response

P.T.O.

- (iii) Active and Passive immunity
- (iv) B cell and T cell epitopes
- (v) Monocyte and neutrophil
- (c) State the contributions of : 2
 - (i) A. Tiselius and E.A. Kabat
 - (ii) Karl Landsteiner.
- (d) Expand the following (any *three*) : 3
 - (i) CFA
 - (ii) APC
 - (iii) TCR
 - (iv) CDR
 - (v) Fab.
- 2. (a) Describe different cell types of innate and adaptive immunity ? How is innate immunity different from adaptive immunity ? 8+3
- (b) Explain clonal selection theory. 4
- 3. (a) How was the structure of antibody deduced ? 6
- (b) Discuss the structure and functions of IgA, IgG and IgM antibodies. 9
- 4. What is antigen processing and presentation ? Explain how exogenous antigen is processed and presented ? 5+10

5. (a) Describe the different types of vaccines. Why adjuvants are used in vaccine preparations ? 8+2
- (b) Explain hybridoma technology. 5
6. Write short notes on any *three* of the following : 3×5
- (a) Immunoelectrophoresis
- (b) Structure of Class I MHC molecule
- (c) Inflammation
- (d) ELISA.

