

This question paper contains 4 printed pages]

Roll No.

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S. No. of Question Paper : 6301

Unique Paper Code : 223501

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Name of the Paper : Immunology-ZOHT-507

Name of the Course : B.Sc. (Hons.) Zoology

Semester : V

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 the following terms :

(i) Pleuripotent cells

(ii) Secondary antibody

(iii) Haplotype

(iv) Hapten

(v) Opsonisation

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(b) Differentiate between the following :

(i) Memory cells and Plasma cells

P.T.O.

- (ii) Primary and Secondary immune response
 - (iii) Sequential and Non-sequential epitopes
 - (iv) Sabin and Salk vaccine
 - (v) Isotype and Allotype. 10
- (c) State the contribution of :
- (i) A. Tiselius and E.A. Kabat
 - (ii) Rosalyn Yalow 2
- (d) Expand the following :
- (i) TLR
 - (ii) DTH
 - (iii) ELISA
 - (iv) PALS
 - (v) CDR
 - (vi) TNF 3
- (e) Give any *one* function of the following :
- (i) Chemokine
 - (ii) Follicular Dendritic cells
 - (iii) Integrins
 - (iv) T. regulatory cell 4

- (f) Give *one* reason for the following :
- (i) NK cells recognise target cells without having BCR and TCR.
 - (ii) Freund's complete adjuvant is more potent than Freund's incomplete adjuvant.
 - (iii) Nude mice can accept graft from other species. 3
2. Describe the attributes of adaptive immunity. Explain its components for mounting an effective immune response. 12
3. (a) How was the structure of antibody deduced ? 4
- (b) Compare the structure and function of IgA and IgG. 5
- (c) Briefly explain immunoelectrophoresis. 3
4. (a) What are the components of complement system ? 1
- (b) Diagrammatically represent the different pathways of complement activation leading to MAC.
(No explanation required). 7
- (c) Briefly discuss the effector functions of complement proteins. 4
5. (a) What is antigen processing and presentation ? Give reason for the existence of two pathways of processing and presenting pathways. Explain any *one* pathway in detail. 2,2,4
- (b) Discuss type I hypersensitivity. 4

6. (a) Distinguish the primary and secondary lymphoid organs. 2
- (b) Why do we have variety of secondary lymphoid organs ? 2
- (c) Discuss the structure and functions of the secondary lymphoid organs with suitable diagrams. 8
7. Write short notes on any *three* of the following : 3×4
- (a) Haemagglutination
- (b) Structure and function of class I MHC molecule
- (c) Recombinant vector vaccine
- (d) Haematopoiesis.