

Roll No.

Total No. of Questions : 9]
(2034)

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UG (CBCS) IIIrd Year Annual Examination

3017

B.Sc. ZOOLOGY

(Immunology)

(DSE-1B)

Paper : ZOOL 302 (B) TH

Time : 3 Hours]

[Maximum Marks : 50

Note :- Attempt *five* questions in all, selecting *one* question each from Sections B, C, D and E. Question No. 1 of Section-A is compulsory.

Section-A

(Compulsory Question)

1. Do as Directed :

(i) Antibodies are produced by :

- (a) B Lymphocytes
- (b) Phagocytes
- (c) Helper T Lymphocytes
- (d) Killer T Lymphocytes

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(1)

Turn Over

- (ii) The organs of the body where RBCs are formed, are known as organs.
- (iii) The differentiation of occurs in Peyer's patches of intestine and appendix, tonsil, etc. collectively known gut associated lymphoid tissue.
- (iv) is primary lymphoid organ and main site of stem cells for B cells and pre T cells.
- (v) The are the immunologically active region of an immunogen that gets attached to antigen specific membrane receptors of T lymphocytes or B lymphocytes.
- (vi) has immortal growth properties of myeloma cells and secreted the antibodies produced by B cells.
- (vii) is class of antibodies, which is found in mother's milk up to first two months of lactation and provides immunity to the infant.

(viii) Adjuvants.

(ix) Interferon.

(x) Natural Killer cells.

1×10=10

Section-B

2. (a) Give a detailed account of secondary lymphoid organs of immune system.

(b) Describe the role of B-Lymphocytes in humoral immune response.

6+4=10

3. (a) Give a comprehensive account of innate immune system.

(b) Give a brief account of cells of immune system.

6+4=10

Section-C

4. (a) Give detailed account of properties of B-cells epitopes.

(b) Write short note on haptens.

5+5=10

5. (a) What is Hybridoma ? Describe the mechanism for production of monoclonal antibodies.

(b) Give a brief account of structure and functions of IgG antibody.

5+5=10

Section-D

6. (a) Give a detailed account of structure and functions of various types of MHC molecules.
- (b) Write short note on basic properties of cytokines. $6+4=10$
7. (a) Describe exogenous pathways of antigen presentation and processing.
- (b) Give a brief account of complement system. $6+4=10$

Section-E

8. (a) What is Hypersensitivity ? Describe type-I hypersensitivity reactions.
- (b) Give a brief account of Autoimmunity. $6+4=10$
9. (a) Give a detailed account of immunodeficiency and its types.
- (b) Write short notes on the following :
- (i) Antigens
 - (ii) Memory cells
- $6+4=10$