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63/1 (SEM-5) DSE1/ZOOHE5016

2023

ZOOLOGY

Paper : ZOOHE5016

(Immunology)

Full Marks : 60

Pass Marks : 24

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct answer : ***(any five)***
1×5=5

(a) How many types of antibodies are there ?

(i) Five

(ii) Two

(iii) Four

(iv) Three

Contd.

- (b) Antibody related with allergy mechanism is
- (i) IgG
 - (ii) IgA
 - (iii) IgE
 - (iv) IgM
- (c) Which of the following cell is involved in cell mediated immunity?
- (i) Erythrocytes
 - (ii) T-cells
 - (iii) Mast cells
 - (iv) Thrombocytes
- (d) Which of the following statement is true about the IgM of human?
- (i) IgM can cross the placenta
 - (ii) IgM can protect the Mucosal surface
 - (iii) IgM is primary restricted in the circulation
 - (iv) IgM is produced by high affinity plasma cells

- (e) Hepatitis is an example of acute _____ infection.
- (i) liver
 - (ii) kidney
 - (iii) spleen
 - (iv) pancreas
- (f) In which structure does B lymphocytes mature and undergo changes that commit them to become B cells?
- (i) Thymus gland
 - (ii) Regional lymph node
 - (iii) Bone marrow
 - (iv) Spleen
- (g) The binding ligand of MHC class-I is
- (i) CD4⁺ protein
 - (ii) CD8⁺ protein
 - (iii) Interleukin-2
 - (iv) Cytokine

- (h) Humoral Immunity is generated by
- (i) B-cell
 - (ii) T-cell
 - (iii) RBC
 - (iv) Dendritic cell
- (i) Complement activation is a part of which type of hypersensitivity reaction ?
- (i) Type I
 - (ii) Type IV
 - (iii) Type II and Type III
 - (iv) Type I and Type IV
- (j) Activation of _____ immunoglobulin is found in milk, mucous, tears etc.
- (i) IgG
 - (ii) IgA
 - (iii) IgM
 - (iv) IgD

2. Answer the following questions : **(any five)**
2×5=10
- (a) What is auto-immune disease ?
 - (b) What is DNA vaccine ?
 - (c) What is adaptive immunity ?
 - (d) Write short note on IgE molecule.
 - (e) Write short note on MHC class-I molecule.
 - (f) Write the properties of cytokinins.
 - (g) What are the components of complement activation ?
3. Write answer **(any five)** of the following :
5×5=25
- (a) Explain about different types of vaccines.
 - (b) Write about Hypersensitivity. What are the different types of hypersensitivity ?
 - (c) Write about the process of classical pathway in complement system.

- (d) Write short note on monoclonal antibodies.
- (e) Write a note on AIDS.
- (f) "Skin is first line of defense." Explain the statement.
- (g) Write a note on inflammation reaction.
- (h) Write about RIA.
- (i) Write the structure and functions of MHC class-II molecules.

4. Answer **any two** of the following :

10×2=20

- (a) What is tolerance ? What are the factors that causes auto-immune diseases ?
4+6=10
- (b) What is ELISA ? Give an account of different types of ELISA test. 4+6=10
- (c) Draw a labelled diagram of immunoglobulin molecule. Write different classes of immunoglobulin with their functions. 5+5=10

- (d) Examine the activation of cell mediated immunity. What are the important roles of cytokines ?
8+2=10
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