

## **ZO-551**

### **Immunology**

M. Sc. Zoology (MSCZO-12)

Second Year, Examination, 2017

**Time : 3 Hours**

**Max. Marks : 80**

**Note :** This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

#### **Section-A**

##### **(Long Answer Type Questions)**

**Note :** Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. Outline briefly the immunoglobulin gene family.
2. What are the various environmental factor contributes the autoimmune disease ?
3. What is the organ in transplantation ? Write and detail.
4. Give the detailed account of major histocontibility complex in human.

#### **Section-B**

##### **(Short Answer Type Questions)**

**Note :** Section 'B' contains eight (08) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.

1. Explain the type III hypersensitivity immune complex reaction.

2. Write the prevention of graft rejection.
3. Write an essay on antibody forming theory.
4. Write short notes on any *two* of the following :
  - (a) Inactivated viral and bacterial vaccines
  - (b) DNA vaccine
  - (c) Complementarity determining regions
5. Explain the initiation and promotion of chemical carcinogene in skin.
6. What are the chemical, physical and biological agents that cause cancer ?
7. Explain the T cell abnormalities in AIDS.
8. Describe the functional properties of IgG, IgA, IgD, IgM and IgE.

### Section-C

#### (Objective Type Questions)

**Note :** Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this Section are compulsory.

1. Secondary immune response is generated due to :
  - (a) Naïve B cell
  - (b) Memory cell
  - (c) Naïve T cell
  - (d) NK cell
2. Which of the following cell possess polymorphonucleus ?
  - (a) B-cell
  - (b) Neutrophils
  - (c) Macrophage
  - (d) Erythrocyte

3. Histamine secretion by degranulation from which cell leads to immediate hypersensitivity :
  - (a) B cells
  - (b) T helper cells
  - (c) Basophils
  - (d) Mast cell
4. Tears contain :
  - (a) IgA
  - (b) IgC
  - (c) Lysozyme
  - (d) All of the above
5. Activation of the alternate pathway involves :
  - (a) C1
  - (b) C3
  - (c) C2
  - (d) C4
6. Control of the activated complement component result from :
  - (a) Agglutination
  - (b) Immune adherence
  - (c) Instability and inactivation of some of these components
  - (d) Mobility of phagocytes
7. T cell do not :
  - (a) Make IL-2

- (b) Respond to IL-2
  - (c) Respond to IL-4
  - (d) Mediate their functions solely by cell to cell contact
8. Which of the following vaccine does not provide life time protection ?
- (a) Polio
  - (b) Tetanus
  - (c) DPT
  - (d) Small pox
9. Hematopoietic stem cells are found in :
- (a) Skin
  - (b) Spleen
  - (c) Bone marrow
  - (d) Payers patches
10. What is the characteristic of early stages of local inflammation : Fever
- (a) Fever
  - (b) Anaphylactic Shock
  - (c) Release of histamine
  - (d) Attack by cytotoxic T cells