

**FOURTH SEMESTER M.Sc. DEGREE EXAMINATION
JUNE 2016**

(CUCSS)

Zoology

ZO 4C T10—IMMUNOLOGY

(2010 Admissions)

Time : Three Hours

Maximum : 36 Weightage

I. Answer the following :—

- 1 Define adaptive immunity.
- 2 What are Haptens ? Give *two* examples.
- 3 Mention the applications of hybridomas.
- 4 What is agglutination ?
- 5 Briefly describe CD3 complex.
- 6 Mention any *two* uses of Western blot in immunology.
- 7 What are cytokines ? Give examples.
- 8 What do you mean by anaphylaxis ? Give example.
- 9 Describe any *two* properties of T cell epitope.
- 10 What do you mean by complement fixation ?
- 11 Write brief note on general organization of B27 HLA antigen.
- 12 Briefly explain exogenous pathway of antigen presentation.
- 13 What is FACS analysis ?
- 14 Describe the role of T-cell receptor in immunological memory.

(14 × 1 = 14 weightage)

II. Answer any *seven* of the following :—

- 15 Differentiate a plasma cell from that of a reticulocyte.
- 16 Write a brief note on class switching.
- 17 List out the applications of ELISA.

Turn over

- 18 Briefly explain the mechanism of agglutination reaction.
- 19 Give a brief account of cell mediated response.
- 20 Explain about Toll like receptor.
- 21 Describe the immune response to infection of viral antigen.
- 22 Describe the mode of presentation of non peptide bacterial antigens.
- 23 Give a brief account of complement regulation.
- 24 Briefly explain the application of flow cytometry in Immunology.

(7 × 2 = 14 weightage)

III. Answer any two of the following :—

- 25 Explain how antibody diversity is generated.
- 26 Differentiate between humoral and cell mediated responses.
- 27 Write an account on antibody engineering and its implications.
- 28 Give an account on the organization of MHC genes.

(2 × 4 = 8 weightage)