

## FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

(UG—CCSS)

Core Course—Biotechnology

BT 5B 02—IMMUNOLOGY AND IMMUNOTECHNOLOGY

Time : Three Hours

Maximum : 30 Weightage

I. Objective Type Questions. Answer *all* questions :

A. True or False :

- 1 Antibody mediated immune responses are termed humoral responses.
- 2 GALT is a primary lymphoid tissue.
- 3 NK cells are cytotoxic cells.
- 4 Opsonization greatly increases the efficiency of phagocytosis.
- 5 Dendritic cells are antigen presenting cells.
- 6 Type II hypersensitivity is also known as immediate hypersensitivity.

B. Name the following :

- 7 Antigen that can generate an immune response.
- 8 The most abundant immunoglobulin in the serum.
- 9 The immunoglobulin that can cross the placenta.
- 10 Name one recombinant vaccine.
- 11 Name an immunosuppressive drug.
- 12 Name one organ specific auto-immune disease.

(12 x 3 = 36 weightage)

II. Short Answer Type Questions. Answer all *nine* questions :

- |                           |                           |
|---------------------------|---------------------------|
| 13 What is Sarcoma ?      | 14 What is opsonization ? |
| 15 What are adjuvants ?   | 16 What are CD markers ?  |
| 17 What are interferons ? | 18 Grave's disease.       |
| 19 Bombay group.          | 20 Haptens.               |
| 21 TNF $\alpha$ .         |                           |

(9 x 1 = 9 weightage)

Turn over

III. Short Essay or Paragraph questions. Answer any *five* questions :

- 22 Immunologic tolerance.
- 23 Western blotting.
- 24 Immunoglobulin superfamily.
- 25 Tumor induction.
- 26 Cancer immunotherapy.
- 27 Recombinant vector vaccine production.
- 28 Organ specific auto-immunity.

(5 x 2 = 10 weighta

IV. Essay Questions. Answer any *two* questions :

- 29 Write an essay on different classes of immunoglobulin.
- 30 What is adaptive immunity ? Explain the general properties of adaptive immunity.
- 31 Explain how antigen presenting cells act ?

(2 x 4 = 8 weightage)