Roll No…….. Total No. of Printed Pages : 4

Code No. : B02/408

Second Semester Online Examination, May-June, 2022

M. Sc. BIOTECHNOLOGY

Paper IV

IMMUNOLOGY

Time : Three Hours] [Maximum Marks : 80

Note : *Part A and B of each question in each unit consist of 'very short answer type question' which are to be answered in one or two sentences. Part C 'Short answer type' and D 'Long answer type' of each question should be answered within the word limit mentioned.*

UNIT-I

1. (A) Write about B-cell receptor. **2**

(B) What is radioimmunoassay ? **2**

(C) Describe about various cells related to immune system. *(word limit 200-250)* **4**

OR

What is Neutrophil Extravasation ?

(D) Describe basic structure of cell types of antibodies. *(word limit 400-450)* **12**

P.T.O.

OR

Commont on following :

(a) Enxyme-linke immunosorbent Assay.

(b) Flow cytometry.

UNIT-II

2. (A) What do you mean by TH-cell Activation ? **2**

(B) What is Humoral Response of Immune cells. **2**

(C) Explain about process of antigen induced B-cell differentiation.

(word limit 200-250) **4**

OR

Write about regulation of B-cell-development.

(D) Describe about three dimensional structure of TCR-Peptide-MHC complexes.

(word limit 400-450) **12**

OR

What are biological consequences of complement Activation, describe in detail.

UNIT-III

3. (A) What is Natural Killer cell. **2**

(B) What are function of cytotoxic 'T' cells. **2**

(C) Describe properties of cytokines.

(word limit 200-250) **4**

OR

Comment on MHC and disease susceptibility.

(D) Describe about organization, inheretance and regulation of MHC.

(word limit 400-450) **12**

OR

Comment on Antibody Dependent cell-Mediated Cytotoxicity.

UNIT-IV

4. (A) What is Hypersensitivity ? **2**

(B) What is cytokine storm ? **2**

(C) Describe about Antibody mediated cytotoxic (Type II) Hypersensitivity.

(word limit 200-250) **4**

OR

Comment on Organ Specific Autoimmune Diseases.

(D) Describe about immunologic-basis of Graft rejection.

(word limit 400-450) **12**

OR

Comment on following :

(a) Attenuated vaccines,

(b) DNA vaccines.

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