

Roll No. :

Total No. of Questions : 16]

[Total No. of Printed Pages : 3

EMIC-325

M.Sc. (IIIrd Semester) Examination, Jan.-2023

MICROBIOLOGY

Paper - FS-MIC-CC-301

(Immunology)

Time : 3 Hours]

[Maximum Marks : 40

The question paper contains *three* Sections.

Section-A

(Marks : 1 × 10 = 10)

Note :- Answer all *ten* questions (Answer limit **50** words). Each question carries 1 mark.

Section-B

(Marks : 3 × 5 = 15)

Note :- Answer any *five* questions by selecting at least *one* question from each Unit (Answer limit **200** words). Each question carries **3** marks.

Section-C

(Marks : 5 × 3 = 15)

Note :- Answer any *three* questions by selecting *one* question from each Unit (Answer limit **500** words). Each question carries **5** marks.

Section-A

1. (i) Define Haptane.
- (ii) Name *two* antigen presenting cells.

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- (iii) What do you mean by B-cell receptors ?
- (iv) Define epitope.
- (v) Which amino acids are found in high concentration in the hinge region of an antibody ?
- (vi) Write the full form of ADCC.
- (vii) Enlist *four* major functions of NK cells.
- (viii) What is the most common cause of immunodeficiency ?
- (ix) Define Human leukocyte antigens.
- (x) Give *two* examples of Autoimmune diseases.

Section-B

Unit-I

- 2. What is innate Immunity ? Write a note on its types and role in immune system.
- 3. Discuss the role of Lymphocytes in Immune system.
- 4. What are Immunogens ? How are they different from Antibodies ? Write a brief note on Haptanes.

Unit-II

- 5. What are Monoclonal Antibodies ? Write a short note.
- 6. Write a note on types, properties and functions of antibodies.
- 7. What are the cytokines ? Write a note on them.

Unit-III

- 8. Write a note on immunological defence against bacterial pathogens.
- 9. Explain the reasons behind the blood group incompatibility.
- 10. Write an explanatory note on Autoantibodies.

Section–C

Unit–I

11. Explain the structure and role of Thymus and Lymph nodes.
12. Explain the role of Macrophages, Basophils and Dendritic cells in immune system.

Unit–II

13. What do you mean by Major Histocompatibility Complex ? Write a note on the MHC type II.
14. Write a detailed note on different pathways of Complement system.

Unit–III

15. Discuss the mechanism behind Hypersensitivity type I.
16. What do you mean by rejection of a Graft ? Write a note on the mechanism behind this phenomenon.