

PD-552
M.Sc. Biotechnology
3rd Semester Examination, Dec 2020
Paper-I
Immunology

Time: Three Hours]

[Maximum Marks: 80
[Minimum Pass Marks: 29]

Note: Answer from **both** the sections as directed. The figures in the right-hand margin indicate marks

Section-A

1X10

1. Answer the following questions:

- (a) Where are T-lymphocytes produced?
- (b) What is Haematopoiesis?
- (c) What is super antigen?
- (d) Write expand form of MHC.
- (e) What is the function of B-lymphocytes?
- (f) Define Autoimmunity.
- (g) Write expand form of ELISA.
- (h) What is meant by Hybridoma?
- (i) What is Hypersensitivity?
- (j) What are NK cells?

2X5

2. Answer the following questions:

- (a) Write a note on Mast cells.
- (b) Explain about antibody engineering.
- (c) Write about cell mediated cytotoxicity.
- (d) Write about immune deficiencies.
- (e) Explain in brief about antigen-antibody interactions.

Section - B
Unit-I

15X4

Answer the following questions:

3 Write an essay on Structure and organization of lymphoid organs.
OR

Explain in detail on lymphocyte trafficking.

Unit-II

4 Write an essay on Structure and function of antibody.
OR

Explain in detail on Immunoglobulin.

Unit-III

5 Write an essay on cell mediated and macrophage mediated cytotoxicity.
OR

Explain in detail on Antigen processing and presentation.

Unit-IV

6 Write an essay on immunity to infectious agents.
OR
Write an essay on complement components, pathways and deficiencies.