



PAR-003-013202

Seat No. _____

**M. Sc. (Biotechnology) (Sem. II) (CBCS)
Examination**

August / September - 2020

BT-208 : Immunology

Faculty Code : 003

Subject Code : 013202

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- 1** Answer any **seven** of the following : (2 Marks each) **14**
- (a) Define the term antigen.
 - (b) State the significance of adjuvants.
 - (c) What is agglutination?
 - (d) Enlist characteristics of IgM.
 - (e) What is innate immunity?
 - (f) What is the role of antigen presenting cell?
 - (g) What is immunogenicity?
 - (h) What is the role of MHC molecules in immune system?
 - (i) What are monoclonal antibodies?
 - (j) Define the term "Hypersensitivity".
- 2** Answer any **two** of the following : (7 Marks each) **14**
- (a) Explain adaptive immune system in detail.
 - (b) Give a detailed account on primary lymphoid organs and secondary lymphoid organs.
 - (c) Describe in detail about Inflammation.
- 3** Answer the following : (7 Marks each) **14**
- (a) Give a detailed account on basic structure of antibody.
 - (b) Discuss principle and applications of ELISA.

OR

- 3** Answer the following : (7 Marks each) **14**
- (a) What is HLA typing? Discuss various methods of HLA typing.
 - (b) Discuss in general about antigen recognition.
- 4** Answer the following : (7 Marks each) **14**
- (a) Give a detailed account on Immunodeficiency.
 - (b) Discuss principle and types of vaccines.
- 5** Answer any **two** of the following : (7 Marks each) **14**
- (a) Discuss about central peripheral and acquired tolerance.
 - (b) Give a general account on recombinant antibodies.
 - (c) Write a note on autoimmune diseases.
 - (d) Explain radio immunoassay in detail.
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