



**FD-643**

M.Sc. 3rd Semester  
Examination, Dec.-Jan., 2021-22

**BIOTECHNOLOGY**

Paper - X

Biology of Immune System

*Time* : Three Hours] [Maximum Marks : 80  
[Minimum Pass Marks : 16

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**Note** : Answer **all** questions in which Question Number 1 is compulsory. All questions carry equal marks.

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1. Write short notes on the following :

- (a) Thymus
- (b) Superantigen
- (c) Type I hypersensitivity
- (d) Monoclonal antibodies

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**(Turn Over)**

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**Unit-I**

2. Describe various cells involved in immune system.

**OR**

Write short notes on the following :

- (a) Innate immunity
- (b) Secondary lymphoid organs

**Unit-II**

3. Give an account on antibody structure and function.

**OR**

Write short notes on the following :

- (a) T-cell receptor
- (b) Complement system

**Unit-III**

4. Explain autoimmunity in detail.

**OR**

Write short notes on the following :

- (a) Antigen processing and presentation
- (b) Cytokines

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**Unit-IV**

- 5.** Explain the general concept of transplantation.

***OR***

Write short notes on the following :

- (a) Hybridoma technology
  - (b) Immunity against viruses
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