



## **ED-330**

M.Sc. 1st Semester  
Examination, March-April 2021

### **MICROBIOLOGY**

Paper - IV

Biology of Immune System

*Time* : Three Hours]      [*Maximum Marks* : 80

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**Note** : Answer **all** questions. All questions carry equal marks. Illustrate your answers with suitable well labelled diagrams wherever necessary.

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1. Explain the following : (50 words each)

- (a) Immune tolerance
- (b) CDR
- (c) CTL
- (d) Antigen binding cleft

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**(Turn Over)**

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- (e) APC
- (f) Interleukins
- (g) Haptens
- (h) Ubiquitylation

2. Write note on the organs of the immune system.

**OR**

Write short notes on the following :

- (a) Hematopoiesis
- (b) Innate immunity

3. Describe the structure of the immunoglobulin molecule ?

**OR**

Write short notes on the following :

- (a) B cell receptor complex
- (b) Complements

4. Describe antigen processing.

**OR**

Write short notes on the following :

- (a) Antigens
- (b) Costimulatory signals

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5. Describe Autoimmunity.

**OR**

Write short notes on the following :

- (a) Type IV Hypersensitivity
  - (b) Immunodeficiency disorders
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