

This question paper contains 2 printed pages]

**NB—17—2023**

**FACULTY OF SCIENCE**

**B.Sc. (Second Year) (Fourth Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2023**

**(New Pattern)**

**BIOTECHNOLOGY**

**(Immunology and Virology)**

**(Tuesday, 05-12-2023)**

**Time : 2.00 p.m. to 5.00 p.m.**

*Time—3 Hours*

*Maximum Marks—75*

**N.B.** :— (i) Attempt *all* questions

(ii) All questions carry equal marks.

(iii) Represent your answers with well labelled diagrams.

1. Define Immunity. Describe in detail factors affecting on innate immune response. 15

*Or*

(a) Describe structure and functions of Lymph node. 8

(b) Write a note on Lymphocytes. 7

2. Describe in detail different classes of immunoglobulins. 15

P.T.O.

WT

( 2 )

NB—17—2023

Or

- (a) Write a note on Agglutination reactions. 8
- (b) Write a note on Adjuvants. 7
3. Describe in detail ICTV-Classification of Viruses. 15
- Or
- (a) Write a note on cultivation of Viruses. 8
- (b) Explain ultra-structure of Viruses. 7
4. Describe in detail life cycle of Lambda Phage. 15
- Or
- (a) Explain structure of Corona Virus. 8
- (b) Write a note on vaccines 7
5. Write short notes on (any *three*) : 3×5=15
- (i) Thymus
- (ii) Antigen
- (iii) Prions
- (iv) TMV
- (v) Ebola virus.

NB—17—2023

2