

**2003001104020002**  
**EXAMINATION SEPTEMBER 2024 (ATKT EXAM)**  
**BACHELOR OF SCIENCE (BIO TECHNOLOGY)**  
**(FOURTH SEMESTER)**  
**BT-09: FUNDAMENTALS OF IMMUNOLOGY**

[Time: As Per Schedule]

[Max. Marks: 50]

**Instructions:**

1. Fill up strictly the following details on your answer book
  - a. Name of the Examination: **BACHELOR OF SCIENCE (BIO TECHNOLOGY) (FOURTH SEMESTER)**
  - b. Name of the Subject: **BT-09: FUNDAMENTALS OF IMMUNOLOGY**
  - c. Subject Code No : **2003001104020002**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

**Q.1 Define/Answer in short Any Four:**

**8**

- (a) What is blood Plasma?
- (b) Define:- Immunology
- (c) Define: - Opsonization.
- (d) What do you mean by antibody titre?
- (e) Define: - Antigen and Epitope.
- (f) Draw diagram of MHC class II molecule.

**Q.2 Attempt Any Two:**

**14**

- (a) Write a short note on granulocytes.
- (b) Explain anatomy and function of spleen.
- (c) Elaborate mechanism of phagocytosis.

**Q.3 Explain in detail Any Two:**

**14**

- (a) Define inflammation. How does the immune system acts during inflammation.
- (b) Elaborate different attributes of cytokine action.
- (c) Write difference between: - cell mediated immunity and humoral immunity.

**Q.4 Attempt Any Two:**

**14**

- (a) Explain structure of antibody.
- (b) Write short note on generation of antibody diversity.
- (c) Explain different types of antibodies.

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