

**BBCCT-127**

**ASSIGNMENT BOOKLET**

**Bachelor's Degree Programme  
B.Sc. Hons in Biochemistry (BSCBCH)**

**IMMUNOLOGY**

**Valid from 1<sup>st</sup> Jan, 2023 to 31<sup>st</sup> Dec, 2023**



**School of Sciences  
Indira Gandhi National Open University  
Maidan Garhi  
New Delhi-110068  
(2023)**

Dear Student,

Please read the section on assignments in the Programme Guide for B. Sc. (Hons) Biochemistry that we sent you after your enrolment. A weightage of 30 per cent, as you are aware, has been earmarked for continuous evaluation, **which would consist of one tutor-marked assignment** for this course. The assignment is in this booklet, and it consists of two parts, Part A and B. It covers all blocks of the course. The total marks of all the parts are 100, of which 35% are needed to pass it.

### Instructions for Formatting Your Assignments

Before attempting the assignment please read the following instructions carefully:

- 1) On top of the first page of your answer sheet, please write the details exactly in the following format:

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**ROLL NO.:** .....

**NAME:** .....

**ADDRESS:** .....

.....

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**COURSE CODE:** .....

**COURSE TITLE:** .....

**ASSIGNMENT NO.:** .....

**STUDY CENTRE:** ..... **DATE:** .....

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**PLEASE FOLLOW THE ABOVE FORMAT STRICTLY TO FACILITATE EVALUATION AND TO AVOID DELAY.**

- 2) Use only foolscap size writing paper (but not of very thin variety) for writing your answers.
- 3) Leave 4 cm margin on the left, top and bottom of your answer sheet.
- 4) Your answers should be precise.
- 5) Solve Part (A) and Part (B) of this assignment, and **submit the complete assignment answer sheets within the due date.**
- 6) The assignment answer sheets are to be submitted to your Study Centre within the due date. **Answer sheets received after the due date shall not be accepted.**

**We strongly suggest that you retain a copy of your answer sheets.**

- 7) This assignment is **valid from 1<sup>st</sup> Jan, 2023 to 31<sup>st</sup> Dec, 2023**. If you have failed in this assignment or fail to submit it by Dec, 2023, then you need to get the assignment for the year 2024-25, and submit it as per the instructions given in the Programme Guide.
- 8) **You cannot fill the examination form for this course** until you have submitted this assignment.

We wish you good luck.

**ASSIGNMENT**  
**Immunology**  
**Core Course in Biochemistry**

**Course Code: BBCCT-127**  
**Assignment Code: BBCCT-127/TMA/2023**  
**Maximum Marks: 100**

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Note: Attempt all questions. The marks for each question are indicated against it. Write all answers in your own words; do not copy from the course material.

**PART-(A)**

**(50)**

1. Write short note on the following: (2.5\*4=10)
  - a) Natural killer cells
  - b) Lymph nodes
  - c) Interleukins
  - d) Adjuvant
  
2. a) How a pathogen is killed by oxygen dependent and oxygen independent pathways? (5)  
b) Illustrate the Properties of B and T-cell epitopes? (5)
  
3. Discuss classical pathway of complement activation. (10)
  
4. Differentiate between: (5+5=10)
  - a) Antigen and Immunogen
  - b) Immunoglobulin G and Immunoglobulin M
  
5. Describe ways of antibody diversification. (10)

**PART-(B)**

**(50)**

6. Give an overview of T- cell development. (10)
  
7. Write short note on the following: (5\*2=10)
  - a) Role of MHC I and II
  - b) CD4<sup>+</sup>Helper T-cells
  
8. Discuss Type III and Type IV Type Hypersensitivity. (10)
  
9. Differentiate between the following: (5+5 =10)
  - i) Endogenous and Exogenous antigen
  - ii) DNA vaccines and Purified macromolecules as vaccines
  
10. Describe the Immunological basis of graft rejection. (10)

