

**BBCCT-127**

**ASSIGNMENT BOOKLET**

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

**IMMUNOLOGY**

**Valid from 1<sup>st</sup> Jan, 2024 to 31<sup>st</sup> Dec, 2024**



**School of Sciences  
Indira Gandhi National Open University  
Maidan Garhi  
New Delhi-110068  
(2024)**

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, 2024 to 31<sup>st</sup> Dec, 2024**. If you have failed in this assignment or fail to submit it by Dec, 2024, then you need to get the assignment for the year 2025-26, 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/2024  
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. Distinguish between the following: (5+5=10)
  - a) primary lymphoid organs and secondary lymphoid organs
  - b) agranulocytes and granulocytes
  
2. a) How a pathogen is internalized? Explain with the help of diagram. (5)  
b) Enlist and enumerate the steps for leukocyte extravasation? (5)
  
3. Discuss alternate pathway of complement activation. (10)
  
4. How following factors influence the immunogenicity? (5+5=10)
  - a) Traits of Host
  - b) Traits of Immunogen
  
5. Describe Tonegawa and Hozumi experiment. (10)

#### PART-(B)

(50)

6. Explain stages and steps of B-lymphocyte maturation. (10)
  
7. Give an overview of pathways of antigen processing and presentation. (10)
  
8. Discuss different types of CD4<sup>+</sup> Helper T cells. (10)
  
9. Differentiate between the following: (5+5 =10)
  - i) TCR and Immunoglobulin
  - ii) Positive and Negative T-cell selection
  
10. Describe the following: (5+5 =10)
  - a) IgE mediated hypersensitivity.
  - b) Active and Passive Immunization

