BZYET-141

ASSIGNMENT BOOKLET

Bachelor's Degree Programme

(BSCG)

(Immunology)

Valid from 1st January, 2026 to 31st December, 2026

School of Sciences
Indira Gandhi National Open University
Maidan Garhi
New Delhi-110068

(2026)

Dear Student,

Please read the section on assignments in the Programme Guide for B. Sc. 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. 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:

ROLL NO.: ……

NAME: ……

ADDRESS: ……

……

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COURSE CODE: ……..

COURSE TITLE: ……..

ASSIGNMENT NO.: ……

STUDY CENTRE: …….. **DATE:** ……..

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 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 1st January 2026 to 31st December, 2026**. If you have failed in this assignment or fail to submit it by December, 2026, then you need to get the assignment for next year, 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

Course Code: BZYET-141
Assignment Code: BZYET-141/TMA/2026
Maximum Marks: 100

Note: Attempt all questions. The marks for each question are indicated against it.

1. a) Draw the structure of the MHC class-II molecules and write any three functions. (5+5=10)

   b) Define cytokines. Mention their role in immunity.

2. a) What is the complement system? Describe the lectin pathway. (5+5=10)

   b) How does our immune system prevent autoimmunity? Explain in brief.

3. Differentiate between the following pairs of terms: (2½×4=10)

   i) Humoral immunity and Cell-mediated immunity

   ii) Antigen and Hapten

   iii) Inactivated vaccine and attenuated vaccine

   iv) B-lymphocyte and T-lymphocyte

4. a) Explain the basic structure of an immunoglobulin with a suitable diagram. (5+5=10)

   b) What is an isotype? Explain different types of isotypes.

5. a) Define Innate immunity. Explain its barriers that provide immunity. (5+5=10)

   b) What are adjuvants? Write their functions.

6. a) Discuss the properties of B-cell epitopes. (5+5=10)

   b) Name the immunological conditions that cause the following autoimmunity disorders.

      i) Grave's disease

      ii) Myasthenia Gravis

      iii) Rheumatoid arthritis

      iv) Multiple sclerosis

      v) Hashimoto's thyroiditis

7. a) Discuss in brief about the mucosal-associated lymphoid tissue. (5+5=10)

   b) Explain HLA typing.

8. a) According to Gell and Coombs, classify hypersensitivity with a suitable example. (5+5=10)

b) Give a detailed account on the functions of cytokines.

9. a) Describe the structure and functions of the IgG molecule. (5+5=10)

b) Explain the principle of ELISA (Enzyme-linked Immunosorbent Assay) and RIA (Radioimmunoassay).

10 What is Vaccination? Explain the different types of vaccines. (10)