

# **ASSIGNMENT BOOKLET**

**Bachelor (Honours) Degree in BIOCHEMISTRY (BSCBCH)**  
**MOLECULAR BASIS OF NON-INFECTIOUS HUMAN DISEASES**

**Valid from 1<sup>st</sup> January, 2025 to 31<sup>st</sup> December, 2025**

**Last date for the assignment submission is on or before 31<sup>st</sup> December, 2025.**



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

Dear Student,

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

**SPECIFIC INSTRUCTIONS FOR TUTOR MARKED ASSIGNMENTS (TMA)**

- 1) Write your Enrolment Number, Name, Full Address, Signature and Date on the top right hand corner of the first page of your response sheet.
- 2) Write the Programme Title, Course Code, Course Title, Assignment Code and Name of your Study Centre on the left hand corner of the first page of your response sheet.

**Course Code and Assignment Code may be reproduced from the assignment.**

The top of the first page of your response sheet should look like this:

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**ENROLMENT NO.:**

|                        |         |                   |       |
|------------------------|---------|-------------------|-------|
| <b>PROGRAMME TITLE</b> | : ..... | <b>NAME:</b>      | ..... |
| <b>COURSE CODE</b>     | : ..... | <b>ADDRESS:</b>   | ..... |
|                        |         |                   | ..... |
| <b>COURSE TITLE</b>    | : ..... |                   | ..... |
| <b>ASSIGNMENT CODE</b> | : ..... | <b>SIGNATURE:</b> | ..... |
| <b>STUDY CENTRE</b>    | : ..... | <b>DATE:</b>      | ..... |

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

- 3) Use only foolscap size writing paper (but not of very thin variety) for writing your answers.
- 4) Leave 4 cm margin on the left, top and bottom of your answer sheet.

- 5) Your answers should be precise.
- 6) Solve questions of the assignment, and submit the complete assignment answer sheets within the due date.
- 7) 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.
- 8) We strongly suggest that you retain a copy of your answer sheets.
- 9) **This assignment is valid from 1<sup>st</sup> January, 2025 to 31<sup>st</sup> December, 2025.** If you have failed in this assignment or fail to submit it by December, 2025, then you need to get the assignment for the year 2026, and submit it as per the instructions given in the Programme Guide.
- 10) You cannot fill the exam form for this course till you have submitted this assignment.

We wish you good luck!

# Assignment

## Molecular Basis of Non-infectious Human Diseases

Course Code: **BBCET-145**

Assignment code: **BBCET-145/TMA/2025**

Maximum marks: **100**

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

### PART-(A)

1. a) Define the balance diet. Explain its importance in daily life. 5  
b) Name the nutrients involved in the following diseases: 1x5=5
  - i) Pernicious anemia
  - ii) Scurvy
  - iii) Xenophthalmia
  - iv) Pellagra
  - (v) Rickets
2. Describe the Eating disorders. 10
3. What is diabetes mellitus? Discuss its laboratory tests used for diagnosis. 2 + 8=10
4. Explain the mechanism of Atherosclerosis. How do low density lipoprotein (LDL) contribute its progression 10
5. a) What are the ways to prevent and management of lifestyle disorders? 5  
b) Write in brief about the causes and features of multifactorial disease. 5
6. Discuss the role of protooncogenes and tumor suppressor genes in the development of cancer. Give example of each. 10
7. Define anxiety. Write symptom, category and causes of anxiety. 10
8. Describe the pathophysiology of Alzheimer's disease. What is role of amyloid beta plaque and tau protein? 10
9. Write the causes and symptoms of the following inherited disorder: 5 + 5=10
  - a) Alkaptonuria
  - b) Phenylketonuria
10. What is familial hypercholesterolemia? Discuss its molecular basis, symptoms and treatments. 10