

**BBCS-185**

**ASSIGNMENT BOOKLET**

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

**BIOINFORMATICS**

**Valid from January, 2025 to 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 for Core Courses 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 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) The assignment answer sheets are to be submitted to your Study Centre as per the schedule made by the study centre. **Answer sheets received after the due date shall not be accepted.**

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

- 6) This assignment is **valid from January 2025 to December, 2025** and submit it as per the instructions given in the Programme Guide.
- 7) **You cannot fill the exam form for this course** till you have submitted this assignment.

We wish you good luck.

ASSIGNMENT  
**BIOINFORMATICS**

Course Code: **BBCS-185**  
Assignment Code: **BBCS-185/TMA/2025**  
Maximum Marks: **100**

Answer all the questions given below.

1. Define the following terms: 2.5 x 4 = 10 M
  - i. Bioinformatics
  - ii. Processing
  - iii. Storage
  - iv. Output
2. **Explain the applications of Microsoft Office in bioinformatics research. Provide specific examples of using MS Word, Excel, and PowerPoint in the field.** 10 M
3. **Who coined the term "Bioinformatics," and what is its significance in modern biology?**  
10 M
4. Describe the following: 5 x 2 = 10 M
  - i. Steps involved in creating and using a PowerPoint presentation
  - ii. Steps involved in creating and using a Excel sheet
5. Differentiate between the following: 5 x 2 = 10 M
  - i. LAN and WAN
  - ii. Web browsers and Search Engines
6. Write a detailed note on NCBI and its applications. 10 M
7. **List and explain the roles of at least five biological databases used in bioinformatics research, such as NCBI, PDB, and UniProt.** 10 M
8. **Describe the concept of sequence alignment. What tools are commonly used for sequence alignment, and how do they contribute to bioinformatics?** 10 M
9. Explain the terms Similarity, Identity and Homology with suitable examples. 10 M
10. **What are some real-life applications of bioinformatics in fields such as agriculture, medicine, and drug design? Provide detailed examples.** 10 M