



PG (CBCS)
M.Sc. Semester-IV Examination, 2026
BOTANY
PAPER: BOT 404
(BIOINFORMATICS)

Full Marks: 20

Time: 1 Hours

The figures in the right-hand margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable.

- A. Answer any **TWO** of the following questions: 2×2=4
1. Differentiate between primary and secondary biological databases. Give one example of each.
 2. What is Gene Bank? Mention its uses.
 3. List any two common file formats used in bioinformatics and briefly state the purpose of each.
 4. Differentiate local and global alignment.
- B. Answer any **TWO** of the following questions: 4×2=8
5. Write a short note on applications of Bioinformatics.
 6. Mention the full form of BLAST. Explain the role of BLAST in nucleotide and protein sequence analysis. 1+3
 7. What are the criteria for RT PCR primer design? Mention any two tools used for primer design. 3+1
 8. Write a note on ORF prediction and gene prediction tools. Mention their limitations. 2+2
- C. Answer any **ONE** of the following questions: 8×1=8
9. Discuss protein structure prediction and its importance. Explain its role in drug designing and modern biological research. 4+4
 10. How restriction site annotation can be done? Write note on primer design, mention its uses. 3+3+2

<<◇>>