

RAN-2303080403030004
M.Sc. (Sem.-III) Examination October - 2025
Botany-Bioinformatics
Time: 3 Hours]
[Total Marks: 70
સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book
- (2) Sketch neat and labelled diagram wherever necessary.
- (3) Figures to the right indicate full marks of the question.
- (4) All questions are compulsory.

Seat No.:

Student's Signature

- Q.1. Describe 16**
What is bioinformatics? Explain its various applications and scope with the examples of suitable software and online platforms.
- Q.2. Describe (Any Two) 18**
1. Explain the source of organization, data type and various types of analysis associated with NCBI and DDBJ.
 2. Give a detail note on Protein Information Resource (PIR) database of bioinformatics.
 3. Explain the various types of analysis available at and SWISS-PROT with applications.
- Q.3. Describe (Any Two) 18**
1. Explain the purpose of the BLAST tool in NCBI.
 2. What is ORF Finder, and why is it useful in gene prediction?
 3. Differentiate between global and local sequence alignment with examples.
- Q.4. Describe (Any One) 18**
1. Define Multiple Sequence Alignment (MSA) and explain available tools.
 2. Explain the significance of Global and Local Alignment with available tools.
 3. Explain DNA sequence-based methods of phylogenetic tree construction and its application.