

**Unique Paper Code** : 42167905  
**Name of the Course** : B. Sc. (P) Life Sciences  
**Name of the Paper** : Bioinformatics  
**Semester** : V

**Duration** : 3 + 1 Hrs

**Maximum Marks** : 75

**Instructions for Candidates**

**Attempt *four* questions in all. All questions carry equal (18.75) marks.**

**Attempt all parts of the questions together.**

**Write your examination roll number on answer sheet.**

**Q1:** Discuss importance of bioinformatics in biological sciences and discuss its applications in research? (8.75+10)

**Q2:** Discuss salient features of Biological databases and its types? (8.75+10)

**Q3:** Define Standard BLAST in detail and discuss its uses in bioinformatics? (10+8.75)

**Q4:** Write down the steps for construction of phylogenetic tree and discuss different methods of tree construction in detail. (10+8.75)

**Q5:** Describe salient features of protein databases. Discuss PIR database and the three layers of Uniprot database in detail. (8.75+5+5)

**Q6:** Discuss multiple sequence alignment in detail with the help of flow chart. Write its significance also. Name five important tools of multiple sequence alignment. (8.75+5+5)