

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E SEM-VII Examination-Nov/Dec.-2011

Subject code: 170406

Date: 29/11/2011

Subject Name: Bio Informatics

Time: 10.30 am-01.00 pm

Total marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Elaborate on the different aims and scopes of Bioinformatics. **07**
(b) Describe the various branches of Bioinformatics **07**
- Q.2** (a) What do you mean by data retrieval? Write a note on any two biological database retrieval systems. **07**
(b) Explain the concept of alignment and the different parameters in aligning sequences **07**
- OR**
- (b) Discuss the concept of gaps in alignment **07**
- Q.3** (a) Explain Global Alignment and local alignment for pairs of sequences **07**
(b) Explain in brief the Dot Matrix analysis method. **07**
- OR**
- Q.3** (a) Explain Multiple sequence alignment and state the general features for multiple sequence alignment **07**
(b) Elaborate on Phylogenetic analysis. **07**
- Q.4** (a) Describe protein modeling. **07**
(b) Discuss bioinformatics in computer aided drug designing **07**
- OR**
- Q.4** (a) Explain the concept of molecular docking **07**
(b) Give classification of proteomics. **07**
- Q.5** (a) Explain Two-Dimensional Polyacrylamide Gel Electrophoresis (2D-PAGE) **07**
(b) Elaborate on prediction of protein functions **07**
- OR**
- Q.5** (a) Why do we need tertiary structure prediction and explain its role in genomics. **07**
(b) Explain protein Microarray. **07**
