

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012

Subject code: 170406**Date: 28/12/2012****Subject Name: Bioinformatics****Time: 10.30 am - 01.00 pm****Total Marks: 70****Instructions:**

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

Q.1 (a) Explain briefly primary protein databases **07**
(b) State the applications and significance of Genomics research. **07**

Q.2 (a) Elaborate on the aims and applications of Bioinformatics. **07**
(b) Enlist the different sequence retrieval tools and explain any one in brief. **07**

OR

(b) Explain pair-wise alignment. **07**

Q.3 (a) Explain protein secondary structure prediction **07**
(b) Elaborate on phylo-genetic analysis. **07**

OR

Q.3 (a) Explain how sequence similarity search is attained by BLAST. **07**
(b) Elaborate on protein microarray **07**

Q.4 (a) Explain the role of bioinformatics in drug designing **07**
(b) Elaborate on modeling of bimolecular systems. **07**

OR

Q.4 (a) Elaborate on protein structure and modeling. **07**
(b) Explain biochemical networks. **07**

Q.5 (a) Explain the use of molecular modeling to discover and design new molecules. **07**
(b) State the significance of biological databases. **07**

OR

Q.5 (a) Explain the different commercial bio-software in molecular modeling. **07**
(b) Elaborate on prediction of protein function **07**
