

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. Sem. – IInd - Examination – June/July- 2011

Subject code: 1723109

Subject Name: Introduction to Bioinformatics

Date: 01/07/2011

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) What is bioinformatics? Give applications bioinformatics. **07**
(b) Explain operators used in perl with example. **07**

- Q.2** (a) Explain structure of DNA in detail. **07**
(b) Describe the basic structure of amino acid with neat diagram. **07**

OR

- (b) Describe the process of polymer chain reaction (PCR). **07**

- Q.3** (a) Explain protein folding process. **07**
(b) Write a program to obtain m-RNA sequence from given DNA sequence. **07**

OR

- Q.3** (a) Explain gene array experiment. **07**
(b) Explain variables used in perl with example. **07**

- Q.4** (a) Enlist methods of alignment and explain dot-plots and scoring matrices in detail. **07**
(b) What is an associative array explain with example and also explain push pop, shift and unshift function with example. **07**

OR

- Q.4** (a) What is sequence alignment? Explain models for sequence analysis. **07**
(b) Give steps of cloning method. **07**

- Q.5** (a) Explain with example: Redo operator **07**
(b) Explain determinants of protein structure **07**

OR

- Q.5** (a) Explain with example: Last operator **07**
(b) Explain the four level of protein structure in detail. **07**
