

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E –IIst SEMESTER–EXAMINATION – JULY- 2012

Subject code: 1723109

Date: 14/07/2012

Subject Name: Introduction to Bioinformatics

Time: 10:30 am – 13:00 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) Explain with applications the word “Bioinformatics”. **07**
(b) How computer science is helpful for Bioinformatics? **07**

- Q.2** (a) Describe the basic structure and function of amino acid. **07**
(b) Explain the structure and function of DNA. **07**

OR

- (b) Explain the steps in cloning process. **07**

- Q.3** (a) Explain operators used in perl with example. **07**
(b) Explain the process of polymer chain reaction (PCR). **07**

OR

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

- Q.4** (a) Mention the methods of alignment and explain dot-plots in detail. **07**
(b) Explain with example: Assignment operator **07**

OR

- Q.4** (a) Mention the methods of alignment and explain scoring matrices in detail. **07**
Q.4 (b) Explain with example: chop. **07**

- Q.5** (a) Write a program to obtain m-RNA sequence from given DNA sequence. **07**
(b) Explain with example: grep. **07**

OR

- Q.5** (a) Write a program to concatenate two DNA sequences. **07**
(b) Explain with example: chmod. **07**
