Exam.Code:0042
Sub. Code: 1007

1058

B.Sc. (Hons.) Bio-Informatics

Fourth Semester

BIN-4002: Computational Methods in Bio-molecular Sequence and structure Analysis

Time allowed: 3 Hours Max. Marks: 60

***NOTE**: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Attempt the following:-

a) Define promoter.

b) What is helical wheel?

c) What is homology?

d) What are CDD databases?

e) Define Morkov model

f) Differentiate between motif and domain.

g) What is operator site in gene?

h) What is neural network? (8x1½)

UNIT – I

II. a) Discuss Glimmer and their importance.

b) Write a note on gene prediction by signal. (6,6)

III. a) Discuss different type of promoter and its prediction methods?

b) Write a note on RNA secondary structure prediction? (6,6)

IV. a) What is Grail & its application?

b) Discuss promoter prediction method in prokaryotic genome. (6,6)

UNIT – II

V. a) What are Mfold and their significance?

b) Write a short note Vienna RNA package? (6,6)

VI. a) Discuss x- ray crystallography and its significance.

b) Write a note on homology modeling. (6,6)

VII. a) Write a note on Sfold.

b) Discuss the Chau Fasmann method. (6,6)

x-x-x