Exam.Code:5141
Sub. Code: 14301

2125

B.Sc. (Hons.) Bio-Informatics (FYUP)
First Semester
BINF-1001: Introduction to Biomolecules

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. Give the answer of following question in very short:-

a) What are components of nucleotides?

b) Write the complete name of GTP.

c) Write the names of two coding RNAs.

d) Ribosomes.

e) Junk DNA?

f) Gives names of two secondary structural motifs of protein structure?

g) Write two names of two aromatic amino acids.

h) What is the peptide bond?

i) Give names of two structural levels present in protein structure.

j) Give name two protein's databases.

k) What is the myoglobin?

l) Write the name of two non-covalent bonds present in protein structure. (12x1)

UNIT - I

II. a) Write in brief about double helical structure of DNA proposed by Watson and Crick.

b) Write a short note on *Z* DNA. (2x6)

III. a) Explained in brief about the unusual structure of DNA, write about the hairpin.

b) What is denaturation of DNA? What is the difference between denaturation and renaturation of DNA? (2x6)

IV. a) What is the tRNA? Explain the clover leaf model of tRNA with diagram.

b) Central dogma of molecular biology. (2x6)

P.T.O.

UNIT - II

V. a) Write in brief about the various structural levels present in the protein structure.

b) Write a short note on *Ramchandran plot*. (2x6)

VI. a) Explained in brief about the fibrous protein with one example.

b) What is alpha (α) helix, write about its structure. (2x6)

VII. a) Write the differences between globular and fibrous proteins with example.

b) What is denaturation of proteins and its characteristics? (2x6)

x-x-x