Exam.Code:0041
Sub. Code: 1001

2012

B.Sc. (Hons.) Bio-Informatics

Third Semester

BIN-3001: Fundamentals of Molecular Biology

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. Answer the following:-

a) What are transposons?

b) How are mutants characterized?

c) What the meant by degeneracy of genetic code?

d) What is the importance of 5' capping in mRNA?

e) Why is Lac Operon known as an inducible Operon?

f) Name the three types of DNA polymerases found in prbkaryotes and give their functions. (6x2)

UNIT - I

II. a) What are various modes of replication?

b) Discuss process of 3' polyadenylation and its importance. (2x6)

III. a) How is DNA repaired by photoreactivation?

b) Write a note on nuclear export of mRNA and mRNA stability. (2x6)

IV. a) How are leading and lagging strands of DNA synthesized?

b) Enlist various types of DNA polymerases and give their functions. (2x6)

UNIT - II

V. a) Explain the wobble hypothesis and give its importance

b) What are the various types of nutrients and frame shift errors? (2x6)

VI. a) Explain the process of prokaryotic translation.

b) What is catalyzed repression give suitable example? (8,4)

VII. a) Discuss Trp Operon and its regulation.

b) Enlist various types of mutagens. (8,4)

x-x-x