Exam.Code:0439
Sub. Code: 25956

2124

M.Sc. (Bio-Informatics) First Semester
MBIN-8003: Fundamentals of Modern Biology

Time allowed: 3 Hours | Max. Marks: 60

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

x-x-x

I. Answer the following:-

a) Differentiate between blunt and staggered end generating restriction endonucleases.

b) What is the role of Helicase?

c) Name the natural and synthetic inducer of lac operon.

d) Briefly explain role of zinc finger.

e) Draw a well laballed diagram of tRNA.

f) Differentiate between BAC and YAC. (6x2)

UNIT - I

II. a) Explain the process of transcription in protaryotes.

b) How does telomerase function? (8,4)

III. a) Discuss structural features of Oric and its importance.

b) Differentiate between conservative and semi-conservative replication modes. (6,6)

UNIT - II

IV. a) How does RNA splicing occur?

b) Discuss Trp operon and its regulation. (6,6)

V. Write notes on the following:-

a) Basic features of genetic code

b) Exon shuffling

c) Eukaryotic gene expression (3x4)

P.T.O.

UNIT - III

VI. a) How is cosmid used as a cloning vector?

b) Discuss any one strategy for screening of libraries from clones. (8,4)

VII. a) What are shuttle vectors and their importance?

b) How are genomic libraries created? (6,6)

x-x-x