Exam.Code:0439
Sub. Code: 3491

1128

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. Attempt the following:-

a) What is Pre-RC complex?

b) Give structure and function of RNA Polymerase enzyme.

c) What are transcription factors? Give examples

d) Define cloning and expression vectors? Give examples

e) What is insertional inactivation?

f) What are fusion proteins? Give their applications (6x2)

UNIT – I

II. a) Discuss in detail the process of prokaryotic DNA replication

b) Compare the promoter sequences in eukaryotic transcription (8,4)

III. a) Discuss the initiation and elongation step in prokaryotic transcription

b) Write a note on Rho independent termination of transcription. (7,5)

UNIT - II

IV. a) Describe structure and regulation Trp operon.

b) Briefly describe the process of eukaryotic translation. (5,7)

V. a) Discuss characteristics of Genetic code in detail.

b) Describe different types of posttranslational modifications. (6,6)

UNIT – III

VI. a) Write a short note on DNA modifying enzymes

b) Explain the structure of Lambda phage vector. How recombinants and non-recombinants are selected in phage vectors? (6,6)

P.T.O.

VII. a) Discuss in detail immunoscreening technique. Give its uses.

b) Describe principle and components of Polymerase chain reaction. Give its applications. (5,7)

x-x-x