Total No. of Questions : 8]

SEAT No. : ____

P1682

[Total No. of Pages : 2

[5229]-23

M.Sc. (Part-I)

BOTANY

BO-2.3 : Molecular Biology and Genetic Engineering

(2008 Pattern) (Semester-II)

Time : 3 Hours] ***[Max. Marks : 80***

Instructions to the candidates:

1) ***Attempt a total of five questions from the following, selecting at least two questions from each section.***
2) ***Answers to the questions from each sections should be written in separate answer books.***
3) ***Figures to the right indicate full marks.***
4) ***Neat labelled diagrams must be drawn wherever necessary.***

SECTION-I

Q1) Describe processing of RNA in eukaryotes. **[16]**

Q2) a) Give the structure of prokaryotic promoter. **[8]**

b) Explain in brief the θ model of prokaryotic DNA replication. **[8]**

Q3) a) Write the role of various eukaryotic transcription factors. **[8]**

b) Describe termination of transcription in prokaryotes. **[8]**

Q4) Write explanatory notes on any two of the following: **[16]**

a) Mismatch repair of DNA damage.

b) Lac operon.

c) Protein folding and processing.

P.T.O.

SECTION-II

Q5) What are cot curves? Describe various classes of DNA based on DNA reassociation kinetics. **[16]**

Q6) a) describe applications of gene cloning. **[8]**

b) Explain various methods used to analyze recombinants. **[8]**

Q7) a) Discuss Southern blotting technique and add a note on its applications. **[8]**

b) Write the types of restriction endonucleases used in DNA cloning. **[8]**

Q8) Write explanatory notes on any two of the following: **[16]**

a) Ti plasmid.

b) Polymerase Chain Reaction.

c) Proteomics.