Total No. of Questions : 5]

SEAT No. : ____

P700

[Total No. of Pages : 2

[5217]-403
T.Y.B.Sc.
BIOTECHNOLOGY
Bb-343 : Recombinant DNA Technology
(2013 Pattern) (Semester - IV)

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

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Draw neat labelled diagrams wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) Answer all the following in 2-4 lines : **[20]**

a) Mention any two milestones of genetic engineering.

b) What are type III restriction endonucleases?

c) Mention the properties of ideal host used in genetic engineering.

d) Explain λ insertion vectors.

e) Write any two guidelines in RDT.

f) A260 : A280 ratio is 1.4 for the given sample. Comment on the composition & purity of the sample.

g) Define genomic library.

h) Write any two applications of genetic engineering.

i) Mention types of probes.

j) Explain activity of RNA as e H.

Q2) Write short notes on : (Any 3) **[3 × 5 = 15]**

a) Role of Ti plasmid.

b) Parameters for successful transformation.

c) Alkaline lysis method of plasmid isolation.

d) Restriction mapping.

P.T.O.

Q3) Write short notes on : (Any 3) **[3 × 5 = 15]**

a) Shuttle vectors.

b) Improtant DNA modifying enzymes in RDT.

c) Dideoxynucleotides and applications.

d) RAPD.

Q4) a) Elaborate an steps in cDNA library synthesis. Add a note on applications of cDNA library. **[7]**

b) Describe in detail any one method of site directed mutagenesis. **[8]**

OR

a) Comment on artificial chromosomes and their applications in RDT. **[7]**

b) Give a detailed account of Southern blotting. **[8]**

Q5) a) Explain in detail the method of Maxam-Gilbert DNA sequencing. Also comment on advantages and limitations of this method. **[15]**

OR

b) Describe in detail the steps in polymerase chain reaction. Add a note on troubleshooting of PCR. **[15]**