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R-3825

M. Sc. (Biotechnology) (Sem. V) Examination

May / June – 2010

IBT 501 : Molecular Biology & Genetic Engg.

(New Course)

Time : **3** Hours] [Total Marks : **70**

Instruction :

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **M. Sc. Biotechnology (Sem. 5)**

Name of the Subject :

☛ **IBT 501 : Molecular Biology & Genetic Engg. (New)**

☛ Subject Code No. : **3 8 2 5** ☛ Section No. (1, 2,.....) : **1&2**

Seat No. :

Student's Signature

SECTION - I

1 Define the following terms : **6**

(a) Ampholytes
(b) Contings
(c) Partitio coefficient
(d) Probes
(e) RT PCR
(f) Microarray.

2 Explain the following in detail : **10**

(a) RTPCR
(b) ISO-electric focusing.

OR

2 Explain in detail ion-exchange chromatography with its application. **10**

3 Enlist different biochemical and biophysical methods used to identify proteins in molecular biology. Explain any two in detail. **10**

OR

3 Explain the following : **10**
(a) Phosphitetriester method
(b) Peptide sequencing.

4 Write short notes : (any **three**) **9**
(a) PAGE
(b) DNa sequencer
(c) Southern hybridization
(d) Biochips.

SECTION-II

5 Explain the following terms : (any **three**) **6**
(a) Concatamer
(b) C-DNA library
(c) T-DNA
(d) S_1 nuclease.

6 What are restriction endo nucleases? Explain in detail with suitable examples. **10**

OR

6 What is rDNA technology? Describe the steps of rDNA technology. **10**

7 Explain the following in detail : **10**
(a) Screening strategies
(b) λ -phage vector.

OR

7 How insertion of foreign DNA into vector is carried out ? Explain the role of linkers, adapters and homopolymer tailing. **9**

8 Write short notes on : (any **three**)
(a) Plasmid
(b) Colony hybridisation
(c) Alkaline phosphatase
(d) C-DNA synthesis.