

M.Sc.(Microbiology) CBCS Pattern Semester-III  
**PSMBT-10 - Paper-II - Recombinant DNA Technology**

P. Pages : 1

Time : Three Hours



**GUG/W/23/11292**

Max. Marks : 80

- Notes : 1. All questions are compulsory and carry equal marks.  
2. Draw diagrams wherever necessary.

1. Discuss in detail the function of restriction endonucleases, DNA ligase and DNA polymerases. 16

**OR**

Write notes on.

- a) Chemical synthesis of DNA. 8  
b) Reverse transcriptase and its activity. 8
2. Describe in detail cDNA and genomic library and applications. 16

**OR**

- a) Discuss plasmids as vectors. 8  
b) Explain DNA cloning with single stranded DNA vectors. 8
3. Explain in detail the r DNA technology with reference to insulin production. 16

**OR**

- a) Discuss artificial chromosomes as vectors for gene library construction. 8  
b) Add a note on genetically modified organisms. 8
4. Explain in detail principle, procedure and optimization of PCR. 16

**OR**

Write notes on.

- a) Dideoxy method for DNA sequencing. 8  
b) Physical mapping of genomes. 8
5. Write short notes on. 16  
a) Transformation.  
b) Lambda replacement vectors.  
c) Promoter probe vectors.  
d) Primers.

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