

B.Sc.-III (CBCS Pattern) Semester - V
011A - Biotechnology Paper-I (Genetic Engineering)

P. Pages : 2

Time : Three Hours



GUG/S/23/13126

Max. Marks : 50

1. Explain polymerase chain reaction (PCR) in detail with its application. **10**

OR

- a) Discuss restriction endonuclease enzymes and its types. **2½**
- b) Write a short note on Alkaline phosphatase. **2½**
- c) Write a short note on T4 polynucleotide kinase. **2½**
- d) Draw diagram of cDNA library process. **2½**

2. What is plasmid vectors. Give details on pBR322 plasmid vector. **10**

OR

- a) Write a short note on Bacteriophage vector. **2½**
- b) Write a short note on yeast artificial chromosome. **2½**
- c) Write down role of Adaptors. **2½**
- d) Write in brief on cosmid vectors. **2½**

3. What is transfection. Explain methods of transfection. **10**

OR

- a) Explain particle gun method. **2½**
- b) Write a short note on Blue - White screening method. **2½**
- c) Write in brief process of transformation. **2½**
- d) Write a note on Lipofection. **2½**

4. Discuss in detail gene therapy. **10**

OR

- a) Write a note on DNA finger printing. **2½**
- b) Write in brief process of antenatal diagnosis. **2½**
- c) Write in brief Interferon production. **2½**
- d) Write a note on Monoclonal Antibody Production. **2½**

5. Solve any ten.

- a) Which Polymerase is used in PCR. **1**
- b) Give types of Polymerase Enzyme. **1**
- c) Give one example of Restriction Endonuclease Enzyme. **1**
- d) Write down full form of YAC. **1**
- e) Define cloning. **1**
- f) Define cosmid vector. **1**
- g) What do you mean by Lipofection. **1**
- h) What is transformation. **1**
- i) Write down full form of DEAE. **1**
- j) What is Interferon. **1**
- k) Define Monoclonal Antibodies. **1**
- l) Define DNA finger printing. **1**
