



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech.(Food Technology) 2020 Admission**  
**IV Semester Final Examination - August 2022**

Pafe.2221

**Food Biotechnology (2+1)**

**Marks: 50**  
**Time: 2 hours**

**I Fill in the blanks**

**(10x1=10)**

1. ----- enzymes in bacteria are responsible for restricting the growth of viruses.
2. ----- enzyme is used to join together two different types of DNA molecules.
3. Recombinant plasmids are added to a bacterial culture that has been pretreated with ----- ions.
4. Taq polymerase is a ----- polymerase.
5. The process of introducing DNA into cells is called -----.

**State True or False**

6. PCR can generate very less amounts of DNA.
7. In lactose industry lactase immobilized enzyme is used.
8. Cocoa butter substitutes is produced by using immobilized Lipase.
9. There are only 2 generation of biosensors.
10. Immobilized enzymes are more preferred over free enzymes in producing biosensors.

**II Write short notes on ANY FIVE of the following**

**(5x2=10)**

1. Differentiate between Prokaryotes and Eukaryotes.
2. What are plasmids?
3. Define gene cloning.
4. Describe the properties of biosensors.
5. What is immobilization of enzyme?
6. List out the examples of GMO crops.
7. Differentiate between entrapment and encapsulation.

**III Answer ANY FIVE of the following**

**(5x4=20)**

1. Explain the steps involved in circular DNA replication.
2. Explain about the role of polymerase in the DNA replication.
3. Discuss about the tools used in recombinant DNA Technology.
4. Write about Amperometric and Potentiometric biosensors.
5. Discuss the methods of entrapment.
6. Write about the advantages of immobilization of cells.
7. Discuss about the application of Biotechnology in food processing.

**IV Write an essay on ANY ONE of the following**

**(1x10=10)**

1. Discuss in detail about mechanism of repair of damaged DNA.
2. Write an essay on the ethical issues related to use of genetically modified foods.

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