

**NS-3472 (CV-II)**

**B.Sc. (Biotechnology) IInd Year**

**Examination, June-2021**

**ENZYMES AND ENZYME TECHNOLOGY**

**(B-209)**

**(B.Sc. Biotech.)**

*Time : 1½ Hours ] [Maximum Marks : 50*

**Note :** Attempt any **two** questions. **All** questions carry equal marks.

1. Briefly outline the steps in cheese production; and discuss the role of enzymes.
2. Write short notes on the following :
  - (a) Competitive inhibition

- (b) Isozymes
- (c) Ion-exchange chromatography
- (d) Prosthetic group

3. Define enzyme engineering. Discuss briefly the principles, objectives, steps and the potential contribution of enzyme engineering.
4.
  - (a) Illustrate the induced fit hypothesis of enzyme action.
  - (b) Explain the structure of an enzyme.
5. What are Enzymes? Discuss their properties and applications.
6. Indicate the main recommendations of International Union of Biochemists for enzyme classification by describing.

- (a) The classes of enzymes with their number.
- (b) Systematic nomenclature of any two enzymes.
- (c) E.C. code number system for enzymes.
7. (a) Distinguish between Holoenzyme and Apoenzyme.
- (b) Describe the factors affecting enzyme activity.
8. Explain Michaelis-Menten equation. With the help of Michaelis-Menten Curve explain the relationship between  $k_m$  and  $V_{max}$ .
9. What do you mean by immobilized enzyme and immobilization of enzyme?

Describe various methods of enzyme immobilization and also its advantages and disadvantages.

---

10. Write an essay on Coenzymes.