

**BACHELOR OF SCIENCE (BIOTECHNOLOGY) (2010 COURSE)**  
**T.Y. B.Sc. (Biotechnology) Sem-VI : WINTER :- 2021**  
**SUBJECT: APPLIED BIOTECHNOLOGY**

Day : Saturday  
Date 5/2/2022

W-6290-2021

Time : 10:00 AM-01:00 PM  
Max. Marks: 80

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPERATE** answer book.

**SECTION-I**

- Q.1** Attempt any **ONE** of the following: (06)
- a) How is fruit juice extracted? Which enzymes play an important role in juice extraction? Explain in brief.
  - b) Which enzymes are important in dairy industry and what are their applications?
- Q.2** Attempt any **TWO** of the following: (10)
- a) Explain the role of enzymes in detergents in brief.
  - b) What is biogas? How can its yield be improved?
  - c) Explain the role of enzymes in fish processing.
- Q.3** Answer any **FOUR** of the following: (16)
- a) What are the different factors that affect the life of bamboo?
  - b) What is HFCS? What are its applications?
  - c) What is penicillin? How is it prepared?
  - d) How can fish silage be useful?
  - e) How is de-hairing of hides done using enzymes?

**SECTION-II**

- Q.4** Attempt any **ONE** of the following: (06)
- a) Explain the advantages and disadvantages of enzyme immobilization in brief.
  - b) Why is softening of chole /rajma important? How is it achieved?
- Q.5** Attempt any **TWO** of the following: (10)
- a) What are the desired qualities of dough for making quality bread? Describe the role of enzymes in bread making.
  - b) What is invert sugar? What are its applications?
  - c) What are artificial sweetners? Explain in brief.
- Q.6** Write short notes on: (16)
- a) Significance of Bamboo as a natural resource.
  - b) Grape pomace as a substance for value addition.
  - c) Glucose isomerase and its applications.
  - d) Role of papain and ficin in meat tenderization.
- Q.7** Answer the following: (16)
- a) Name two fungicides important for preservation of natural resources.
  - b) How does catalase help in cheese making?
  - c) Which enzymes are important for paper and pulp industry?
  - d) Which is the anti nutritional factor present in grape process? How can it be removed?
  - e) How can chill-haze be prevented?
  - f) What are bioactive peptides?
  - g) What is the substitute for animal rennet that can be used in dairy industry?
  - h) Name any two materials that are used as builders in commercial detergents.

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