A 306

B.E/B. Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2005.

Fifth Semester

Industrial Biotechnology

IB 041 — FOOD SCIENCE AND TECHNOLOGY

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the major nutrient contribution of cereals?

2. What are typical microbes associated with spoilage of bread?

3. What are intense sweeteners?

4. What is retrogradation of starch?

5. Define rigor mortis.

6. List the microbes associated with fermentation of yoghurt.

7. Explain the term D value.

8. Explain enzymatic browning.

9. What are DE and DI?

10. What is SCP?

PART B — (5 × 16 = 80 marks)

11. Discuss the role of enzymes in the conversion of starch of HFCS. What are the applications of HFCS in the food industry?

12. (a) Differentiate between pasteurized and sterilized milk. How are the products different with respect to shelf life? Why?

Or

(b) Differentiate between water content and water activity of foods. How do they influence the shelf life of foods?

13. (a) Gluten development is crucial to the quality of bread. Explain the role of ingredients and processes that influence these.

Or

(b) Explain the role of enzymes in fruit processing.

14. (a) Differentiate between hetero–lactic and homo–lactic fermentation. Discuss their applications in any two dairy products.

Or

(b) Explain the sauerkraut fermentation process. How do temperature and salt concentration affect the process and product?

15. (a) What are the principles underlying methods of food preservation? List the commonly used preservatives.

Or

(b) Discuss how temperature modifications in processing affects food quality? What are the advantages of low-temperatures in the processing and preservation of foods?
