

C 3080

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

Sixth Semester

Biotechnology

BT 1006 – PRINCIPLES OF FOOD PROCESSING

(Regulation 2004)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the role of water in biological systems?
2. What are lipids? How are they classified?
3. What are food additives? What are their legitimate uses?
4. What are stabilizers and thickeners? Give examples.
5. What is the relevance of microbiology in food processing and preservations?
6. What is the influence of O-R potential of a food on the activity of microbes?
7. Distinguish between food infections and food intoxications.
8. What is rigor mortis? How is it relevant in cooking meat?
9. What are ionizing radiations? How are they effective against microorganisms?
10. What is pasteurization and blanching?

PART B — (5 × 16 = 80 marks)

11. (a) Discuss the role of minerals in human metabolism.

Or

- (b) What are the different functional properties and application of egg and milk proteins?

12. (a) Discuss in detail about the organic acids and their salts functioning as preservatives.

Or

- (b) How do sulphur compounds function as preservatives? What are their disadvantages?

13. (a) Write short notes on :

- (i) Single cell protein. (4)
- (ii) Enzymes that aid in food processing. (4)
- (iii) Organoleptic and textural characteristics of food. (4)
- (iv) Frozen storage. (4)

Or

- (b) Name few bacteria that are useful in food processing. Give details. (16)

14. (a) What are the organisms responsible for the spoilage of

- (i) Bread (4)
- (ii) Dairy products (4)
- (iii) Poultry (4)
- (iv) Beverage. (4)

Or

- (b) Give an account of fatal food borne diseases, the organisms responsible and their management.

15. (a) Give an account of the processing steps involved before irradiating food items and the radiation process.

Or

- (b) List the requirements of food packing materials and containers. What are the different packaging materials used in food industry?