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J 3079

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2009.

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 polymorphism of fats? What are its implications?
2. How are gases and propellants used in food industry?
3. What are patulins?
4. Blanching is a kind of pasteurization. Justify your answer.
5. What are the optimal conditions for the growth of *Clostridium botulinum* in food?
6. What are the effects of ionizing radiations on food?
7. What is Perigo effect?
8. How does wood smoke function as a preservative?
9. What are the organisms responsible for spoilage of dairy products?
10. What is the reason for sourness in fruits?

PART B — (5 × 16 = 80 marks)

11. (a) Write a note on the various factors affecting the heat resistance of microorganisms. Add a note on the principle of thermal destruction of microorganisms.

Or

- (b) Write a brief account of enzymes used in food processing and their microbial sources.
12. (a) What are food chemicals? How are they produced?

Or

- (b) Discuss the importance of the following in food processing
- (i) Bacteria
 - (ii) Yeast and molds.
13. (a) Describe the fatal food borne disease and the organism responsible.

Or

- (b) Discuss in detail the role of various factors in the spoilage of foods.
14. (a) Write a short note on
- (i) Caramelization
 - (ii) Maillard reaction
 - (iii) Rancidity
 - (iv) Putrefaction.

Or

- (b) Discuss the role of minerals in human metabolism.
15. (a) What are the functional characteristics of chemical? Classify the different additives used in food industry, giving one example from each class.

Or

- (b) Discuss in detail the development of flavours in food industry.
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