

B TECH
(SEM VI) THEORY EXAMINATION 2017-18
FOOD BIOTECHNOLOGY

(Time: 3 Hours)

(Total marks: 100)

SECTION – A1: Attempt all parts. All parts carry equal marks. [2x10=20]

1. What are the major causes of food spoilage?
2. Name two chemical compounds used as food preservative.
3. Explain the term sterilization and pasteurization.
4. Give the importance of Eh in the growth of microbes in food?
5. What are the advantages of using standard plate count to determine total microbial content in food?
6. How pH affect the growth of microbes in food?
7. Define water activity. What do you understand by Equilibrium Relative Humidity?
8. What do you understand by DMC and why it is used?
9. Define water activity. What do you understand by Equilibrium Relative Humidity?
10. What is the difference Psychrotrophic and psychrophilic bacteria?

SECTION – B2: Attempt any 3 parts. All parts carry equal marks. [3x10=30]

1. List the sources of food contaminants of natural origin. Elaborate on any two sources of contaminant in detail.
2. Discuss the relationship between water activity and percent moisture as water is added to rehydrate a food. Include as part of your answer an explanation of the relationship between water activity and the safety and wholesomeness of the food.
3. Explain the procedure of most probable number method for the determination of microbial number. Discuss its advantages and disadvantages.
4. Briefly explain how the polymerase chain reaction is used to amplify a specific DNA sequence. What is its application in the identification of microbe in food.
5. Discuss the various Immunological Methods for The Detection of Specific Organisms and Toxins in food.

SECTION – C

Note: Attempt all parts. All parts carry equal marks.

3. Attempt any one part (10 marks)

- a) Discuss the Microscope Colony Counts and Dye Reduction method Determining Microorganisms and/or Their Products in Foods.
- b) Discuss the procedure of Direct microscopic count of organisms in milk.

4. Attempt any one part (10 marks)

- a) Give the synopsis of genera of molds common to foods.
- b) Describe in detail the Principles and method of food spoilage & preservation.

5. Attempt any one part (10 marks)

- a) Give the various physical methods for the microbial identification in detail.
- b) List the sources of food contaminants of natural origin. Elaborate on any three sources of contaminant in detail.

6. Attempt any one part.

(10 marks)

- a) Discuss the various Immunological Methods for The Detection of Specific Organisms and Toxins in food.
- b) What do you understand by fermented food products? Explain any four in detail.

7. Attempt any one part.

(10 marks)

- a) What are the intrinsic parameters of food? How those parameters influence the growth of microbes in food?
- b) Define or Explain the Following in Relationship to Their Importance in the Food Industry
 - a. pH
 - b. Undissociated Acid
 - c. Temperature
 - d. CO₂