

**B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING SECOND YEAR
SECOND SEMESTER EXAM – 2025**

Subject : FOOD MICROBIOLOGY

Time : 3 hr

Full Marks : 100

Part I (50 marks)

Use Separate Answer scripts for each Group

Answer any five questions from the following:

5x10=50

1. How antimicrobial agents inhibit or kill bacteria? How fractional sterilization is performed? How dry heat kills microorganism? 5+3+2=10

2. Write the principle of the inhibitory effect of low temperature and desiccation. Compare the sterilizing power of UV ray, X ray and Gamma ray. 5+5=10

3. What is the difference between high risk and low risk food? Define incubation period and duration of illness. Mention the characteristics of any one bacterial food poisoning. 3+3+4=10

4. What do you mean by mycotoxin? Write about the characteristics of any two mycotoxins. How the health risk from mycotoxin can be minimized? 1+5+4=10

5. What are the common sources of microbial spoilage to milk and milk products? How adequacy of pasteurization of milk can be tested? 6+4=10

6. What type of bacteria are responsible for the spoilage of fruit and fruit juices? What are the reason of bacterial soft rot and sour rot of vegetables? 6+2+2=10

7. What are the potential sources of contamination for meat and meat products? What factors affect the growth of microorganism in meat? 5+5=10

8. Write a short note on any **two**: 5+5=10

i. Whittaker's five kingdom system

ii. Dry heat sterilization

iii. Cereal based fermented food

Ref. No. : Ex/FTBE/PC/B/T/222/2025

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SECOND SEMESTER EXAM – 2025****Subject : FOOD MICROBIOLOGY****Time : 3 hr****Full Marks : 100****Part II**

(Marks 50)

Answer any five questions from the following: 5x10

1. Define with example: thermophilic organism, perishable foods, implicit factors, psychrotrophs. 4x2.5

2. Explain about:

- a) antimicrobial constituents of food inhibit growth of microorganisms.
b) biological structure of food prevents microbial spoilage of it. 6+4

3. State and explain pour plate method and surface plate method for determination of number of viable cells present in a food product. What are the factors affecting colony count? 3+3+4

4. Explain Methylene blue reduction test used for bacteriological examination of milk. Mention three factors affecting the test 7+3

5. What is meant by food contamination? What are the sources of food contamination? What is rotting of egg? 2+5+3

6. Define food spoilage. State the causes of food spoilage. Explain chemical changes of food due to microbial spoilage. 2+3+5

7. Write notes on: (any two) 2x5

- a) significance of microorganisms in milk
b) direct microscopic count of microorganisms of a food sample.
c) spoilage microorganisms in milk.