

Ref. No. : Ex/FTBE/PC/B/T/222/2024

**B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING SECOND YEAR  
SECOND SEMESTER – 2024**

**Subject : FOOD MICROBIOLOGY**

**Time: 3hr**

**Full Marks: 100**

**Part I (Total Marks 50)**

**Instructions : Use Separate Answer scripts for each part**

Answer any **five** questions from the following: 5x10=50

1. Describe the Whittaker's five kingdom system for classification of organism. What is the difference between

i. lithotroph and organotroph

ii. Bacteriostatic and bactericidal agent 6+4=10 (CO1)

2. What do you mean by cold sterilization and commercial sterilization? How heat is used for killing of microorganism? What do you mean by incineration? 4+4+2=10 (CO2)

3. What are the sources of contamination of dairy products? How adequacy of pasteurization process is determined? 5+5=10 (CO3)

4. Write about some common types of spoilage found in fruits. What are the major groups of bacteria responsible for the spoilage of fruits? 5+5=10 (CO3)

5. What do you mean by food poisoning? Give two examples each for biological and chemical food poisoning. How microorganism get access to food products? 1+4+5=10 (CO4)

6. What is the difference between endotoxin and exotoxin? What are the different types of bacterial exotoxin? What do you mean by mycotoxin? How the health risk from mycotoxin can be minimized? 2+3+1+4=10 (CO4)

7. Write the production method of a cereal based fermented food and its health benefit.

8+2=10 (CO4)

[ Turn over

**BE (FTBE) 2 ND YEAR 2 ND SEMESTER EXAMINATION 2024**

**FOOD MICROBIOLOGY**

**Time: 3hours**

**Part II**

**Full Marks: 100**

(Marks 50)

Answer any five questions from the following: 5x10

1. Define with example: Intrinsic factors, Extrinsic factors, thermophilic organism, mesophilic organism. 4x2.5

2. Explain about antimicrobial constituents of food. Biological structure of food provides protection against microbial spoilage of it - justify the statement. 6+4

3. Explain about sources of air pollution. How microbial content of air is determined by Anderson sampler. 5+5

4. What are coliform organisms? Give two examples of water borne diseases with organism responsible for it. Explain IMVIC test for water sample. 2+2+6

5. Define fecal and non fecal coliform organisms. Explain enzymatic methods of detection of coliform organisms present in water. 2+2+6

6. Define food spoilage. What is meant by food contamination? What are the sources of food contamination? 2+3+5

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

a) Aeroallergen and aeroallergy

b) significance of microorganisms in milk

c) chemical changes of food due to microbial spoilage