

**B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING SECOND YEAR
SECOND SEMESTER – 2022**

Subject : FOOD MICROBIOLOGY

Time : 3 hr

Full Marks : 100

Use separate Answer Script for each Part

Part- I (50 Marks)

Answer any five questions:

10x5=50

1. What is Whittaker's five kingdom system? How antimicrobial agents inhibit or kill microorganism? 6+4=10

2. What is dry and moist heat? Which one is more effective and why? Define D value and z value. What is the significance of z value? 2+2+4+2=10

3. What are the causes of food poisoning? What is high risk and low risk food? What do you mean by the incubation period and duration of illness of bacterial food poisoning? Give two examples of biological food poisoning. 2+2+4+2=10

4. What is the difference between bacterial endotoxin and exotoxin? Write about any two types of mycotoxins. 2+4+4=10

5. What are the sources of contamination in dairy products? What is alkaline phosphatase test? Write the principle of this test. 3+2+5=10

6. What are the major group of bacteria involved in the spoilage of fruits? What kind of spoilage are caused by them? 2+8=10

7. What are the benefits of fermented food? How fermentation helps in food preservation? Explain the method of production of a soya/ cereal based fermented food. 3+2+5=10

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BE (FTBE) 2 ND YEAR 2 ND SEMESTER EXAMINATION 2022

FOOD MICROBIOLOGY

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PART II (50 Marks)

Answer any five questions from the following: 5x10

1. Define: Intrinsic factors, Fecal and non-fecal coliforms, Thermophilic organism, nonperishable foods. 5x2

2. What is meant by food contamination? What are the sources of food contamination. Explain the chemical changes occurring due to microbial spoilage of food. 2+3+5

3. Discuss about Methylene blue reduction test for determination of microbial content in milk. Mention the importance of Phosphatase test. 7+3

4. Explain about determination of viable cells in a food sample. Biological structure of food protects it from spoilage- Explain. 6+4

5. What are coliform organisms? Give an example of water borne disease with organism responsible for it. Explain IMViC tests. 2+2+6

6. What are the sources of air pollution? Explain about determination of microorganisms in air by Anderson sampler. 3.5+6.5

7. Write notes on: 2x5

a) spoilage microorganisms in milk

b) antimicrobial constituents of food.