

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BTECH
BRANCH: FOOD ENGINEERING AND TECHNOLOGY**

**SEMESTER : V
SESSION : MO/2025**

SUBJECT: FE301 FOOD MICROBIOLOGY

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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		CO	BL
Q.1(a)	Discuss the role of water activity and O-R potential in the growth of microorganisms. Give the principles of food preservation	[5] 1	2
Q.1(b)	Describe the causes of spoilage of foods? Describe the changes that occur in the protein, fat and carbohydrate content of foods due to microbial growth.	[5] 2	2
Q.2(a)	Explain the growth curve of microbial cultures. Differentiate between sterilization and pasteurization.	[5] 2	2
Q.2(b)	What are the causes of spoilage of canned foods? What is asepsis?	[5] 2	3
Q.3(a)	Describe the general types of microbial spoilage of fruits and vegetables. What is ropiness? Describe.	[5] 1	2
Q.3(b)	Illustrate the reasons for the spoilage of fish. Explain the sources of contamination of milk.	[5] 2	3
Q.4(a)	Classify food-borne diseases. What is botulism? Describe.	[5] 2	4
Q.4(b)	Assess the conditions necessary for the outbreak of staphylococcal food poisoning? Write notes on <i>Listeria monocytogenes</i> .	[5] 1	5
Q.5(a)	Describe the methods for the manufacture of vinegar. Describe the sauerkraut fermentation?	[5] 1	2
Q.5(b)	Discuss the process of leavening? Explain the leavening of bread by yeasts.	[5] 3	2

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