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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATIONS- 2026

M.Sc.IV Semester (Microbiology)

COURSE CODE (CREDITS):21MS1MB411(03)

MAX MARKS: 35

COURSE NAME: Food and Dairy Microbiology

COURSE INSTRUCTOR: Dr Anil Kant

MAX. TIME: 2 Hours

Note: (a) All questions are compulsory. (b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems (c) Use of calculator is allowed

Q.No	Question	Marks
Q.1	Do any four parts. a. What should be the strain selection criteria for bread fermentation? b. Bread fermentation is carried out at 25-28 C despite optimum temperature for yeast growth is 36-39 C. Give reasons. c. What is gluten? Mention its importance in bread production. d. What is "proofing" in bread manufacturing? Why is it required? e. Enlist the events which occur during baking of bread, when dough temperature reaches 60°C.	6
Q.2	a. What is food fermentation and fermented foods? Distinguish natural and controlled food fermentation citing suitable examples. b. Do a detailed analysis of the advantages of fermented foods, citing suitable examples wherever required?	6
Q.3	a. Describe any three traditional and two modern methods of food preservation focusing on how each method inhibits spoilage. b. What are starter cultures? Outline the steps involved in propagation of starter cultures and list the key characters to assess quality of starter cultures. c. Describe the classification of starter cultures based on, number of strains, preservation method?	9
Q.4	a. Discuss and explain basic good agricultural practices, followed for production of healthy and safe food? b. Demonstrate your understanding about Hazard Analysis and Critical Control Points (HACCP). Explain any two principles of HACCP.	6
Q.5	a. Describe in detail the general manufacturing process of cheese with a neat flow chart. b. Describe the functions of optional ingredients used in bread making, including sugars, enzymes, fats, and emulsifiers, reducing agents, oxidizing agents.	8