

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT  
TEST -2 EXAMINATION- 2023  
M.Sc-III Semester (Biotechnology)

COURSE CODE (CREDITS): 22MS1BT311(02)

MAX. MARKS: 25

COURSE NAME: Food Biotechnology

COURSE INSTRUCTORS: Dr. Anil Kant and Dr. V. Garlapati

MAX. TIME: 1 Hour 30

Minutes

*Note: (a) All questions are compulsory.*

*(b) Marks are indicated against each question in square brackets.*

*(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*

Q.1

- a. Analyze relationship of water activity of food with i) Microbial food spoilage ii) Food preservation iii) Food safety. Include suitable examples to prove your arguments. [3]
- b. Why is food with water activity  $< 0.85$  considered generally safe? [1]

Q.2

- a. Enlist factors controlling redox potential of food, common redox couples found in food along with their Eh values. Explain redox poisoning. When is poisoning of food stuff maximum? [4]
- b. What is Significance of food acidity in deciding food preservation treatments? [1]

Q.3

- a. Interpret all the reasons why air/O<sub>2</sub> in packaging headspace result in food spoilage in a number of ways. How is the gaseous environment in some food packaging modified? Elaborate on gasses or other methods used and include some examples. Make a contrast between i) modified atmosphere packaged food ii) controlled atmosphere packaged food [3]
- b. What changes occur in nitrogenous compounds in food, as results of spoilage. Enlist some main end products formed. [2]

Q.3 Write about the following one's

- A. Differentiate Yogurt with Yakult in terms of description and benefits [3]
- B. Depict the different therapeutic effects of Probiotics with a neat sketch [1]

Q.4 Summarize the following aspects

- A. Probiotics postulated mechanism in case of Cholesterol assimilation and Lactose Intolerance [3]
- B. Types, Products and health benefits of Fermented Dietary fibers [3]