

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -3EXAMINATION- 2023

M.Sc-III Semester (BIOTECHNOLOGY)

COURSE CODE (CREDITS): 22MS1BT311 (02)

MAX. MARKS: 35

COURSE NAME: Food Biotechnology

COURSE INSTRUCTORS: Dr. Anil Kant & Dr. G. Vijay Kumar

MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

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

1. Write about the following one's
 - (a) What are lactic acid bacteria? Write about different classes on the basis of metabolism and different genera significant to food fermentation and preservation. [2.5]
 - (b) Extract out four distinct points, why molds hold a great importance in food. Write about following mold / yeast genera. i) Yeast ii) Penicillium and Aspergillus. [2.5]
2. Write about key characteristics, important species and significance of any two of following genera of organisms, in food and food environments i) *Salmonella* ii) Acetic acid bacteria iii) *Clostridium* iv) *Tetragenococcus*. [5]
3. Write a detailed note on classical, modern and futuristic methods of food preservation. Include at least 3 such methods with examples in each category. [5]
4. What are the different driving forces to use the biotechnological methods for flavor production? Summarize the role of "Flavour enhancers and Potentiators" in food formulations? [5]
5. What are the different stages involved in cheese production by providing the health benefits of cheese? How the starter composition varies with the "Swiss", "Mozarella" and "Camembert" cheeses? [5]
6. Classify the "Major Bioactive compounds" of milk by summarizing the bio- functionalities of different protein and fat constituents of milk? Differentiate the fermented milk product of "SKYR" with "LEBEN"? [5]
7. Write about the following one's [5]
 - (a) Natural flavouring Vs Nature-identical and Artificial Flavouring substances [2.5]
 - (b) Production forms – DVS vs. bulk starter cultures [2.5]

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