

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI, PILANI CAMPUS
MID SEMESTER EXAMINATION: I SEMESTER: 2022-23
FOOD BIOTECHNOLOGY: BIOT 424
CLOSED BOOK

Maximum Marks: 30
Maximum Time: 90min

Date: 31/10/2022

PART A (15M)

Q1. What is your opinion on the statement that “children should drink only pasteurized juice products”. Briefly discuss. (2)

Q2. What are nosocomial infections. Which of the following can be associated with it. Justify your answer for each in 1 line only.

(i) H5N1 (ii) Diabetes (iii) *Enterococcus Faecalis* (iv) Mastitis (2.5)

Q3. Plot a hypothetical graph depicting concentrations of sucrose, lactic acid, pH and *Saccharomyces sp.* (microbe) during the process of fermentation. (2.5)

Q4. Water activity of 2 lots of homemade jam (batch A & batch B) were found to be 0.75 and 0.91, respectively. What can you infer from the above value in terms of its durability? Any suggestions on enhancing the durability, if required. (2)

Q5. What is Evisceration? What is its significance.? (2)

Q6. Which microbe is used to detect the presence of penicillin in milk. Draw a flow chart explain how it can be done. (2)

Q7. What is the difference between prebiotic and probiotic. How do gut short chain fatty acids produced in the gut alter course of disease. (2)

PTO

PART B (15M)

1. Elaborate briefly on the meaning of the following statement by Hippocrates: '*Let food be thy medicine and medicine be thy food*'. Give relevant examples. [2M]
2. In context of nutraceuticals, what is meant by bioavailability? How can it be enhanced? Mention briefly with the help of an example. [2M]
3. Mention briefly the principle behind 'aspiration cleaning' of food material. Give suitable example. [2M]
4. Mention briefly the catalytic action and application of each of the following enzymes in food processing:
 - (i) Pectinase
 - (ii) Glucose oxidase
 - (iii) β -Galactosidase [3x1M=3M]
5. We have discussed 'food engineering' and 'food conversion' operations in class. Mention the similarities and dissimilarities between these two types of operations. [3M]
6. How do proteins compare to polysaccharides as emulsifiers? Discuss briefly with the help of examples. [3M]

GOOD LUCK