

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT  
TEST -2 EXAMINATIONS- 2026

B.Tech-VIII Semester (BT)

COURSE CODE (CREDITS): 03

MAX MARKS: 25

COURSE NAME: Food Processing and Engineering

21B1WBT231

COURSE INSTRUCTOR: Dr Anil Kant, Dr Ashok Nadda

MAX. TIME: 1 Hour 30 Min

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 not allowed

Q.No	Question	CO	Marks
Q1	a.How might thermal processing impact the functional properties of food proteins and enzymes? b. How much salt is added during the dry salting method of pickling? Why is it recommended to add in two stages? c. Write down the two main ingredients of jam apart from mentioned below and their specified standard quantity parameters. d.What is role of i) pectin ii) citric acid in jam preparation	CO-2	4
Q2	a. Identify general characteristics, significance and important species and of any three of following genera in food or food environments i) Lactococcus ii) Tetragenococcus iii) Leuconostoc v) Oenococcus b. How do non-thermal packaging methods ensure microbial safety without heat? Explains considering any three such methods.	CO-2	5
Q3	a. A jam batch shows crystallization during storage. Analyze the reason and suggest solutions. b. How the end point during jam preparation is judged by i) drop test ii) Refractrometer method iii) temperature method. c. Why one-third of the total sugar required is added at the time of commencement of boiling and salt is added in the last during ketch up preparation? d. What is black neck defect and how can it be prevented?	CO-2	6
Q4	What is a fruit jelly? Draw a flow diagram for fruit jelly preparation? Discuss "alcohol" and "gelmeter tests", decision rules about the amount of sugar added on the basis of results.	CO-2	4
Q5	a. A large quantity of a fruit or vegetable is produced in rural areas during a short harvesting season, far from urban markets. The produce is bulky and not usually consumed in its raw form but is mainly used for making processed products. Suggest an effective strategy for processing, so that it can be made available throughout the year for processing, while keeping the cost affordable for consumers. b. Draw well labeled "temperature - heat" diagram of steam production and explain following terms i) Sensible heat ii) Enthalpy of wet steam iii) Enthalpy of superheated steam	CO-4	6