

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2024

B.Tech-I Semester (CSE/IT/ECE/CE)

COURSE CODE(CREDITS):21B1WBT831

MAX. MARKS: 35

COURSE NAME: Food Processing and Engineering

COURSE INSTRUCTORS: Dr Anil Kant

MAX. TIME: 2 Hours

*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.

Explain the underlying principles of food preservation, including the main factors that contribute to food spoilage. Describe at least three different types of food preservation methods, focusing on how each method inhibits spoilage. [5] Co II

Q.2

- a. Enlist advantage of size reduction of raw materials in the food processing industry. Mention two key factors with explanation which are responsible for most of these advantages. [3] Co III
- b. Describe the general design and working and uses of any three of following equipments i) Hammer mill ii) Roller mill iii) Gravity separator iv) Cyclone separators v) Telescope centrifuge [6] Co III

Q.3

- a. Give three examples of size reduction in following classes of food Industry i) Fruits and Vegetable processing ii) Cereals and Pulses iii) Spices and plantation crops [3] Co II
- b. What factors need to be considered for choosing plant location and plant layout design of a food processing plant? Do a detailed analysis with suitable examples. [3] Co III

Q.4

- a. Distinguish natural and controlled food fermentation citing suitable examples. [2] Co II
- b. Write a brief note of the ideal Fermentation environment wrt Light, Temperature and time given to ferment or Checking the fermentation for contamination and spoilage via Taste Looks, Smell and Touch [4] Co II

Q.5

- Attempt any three [3x3 = 9] Co IV, V
- a. What are the functions of food packaging? Discuss vacuum packaging and Modified atmosphere packaging
- b. What would be the effect of the following added ingredient in bread dough? a) cysteine b) ascorbic acid c) gluten.
- c. Describe design and working of any two mixing equipment relevant to the food industry.
- d. Write a brief note on following thermal processing methods i) Blanching ii) Pasteurization