

B.E (FTBE) THIRD YEAR, SECOND SEMESTER EXAMINATION 2024

FOOD PROCESS TECHNOLOGY - IV

Time: 3hours

(50 Marks for each Part)

Total Marks: 100

Use separate answer script for each Part

PART- I (50 MARKS)

Answer Q1 and any TWO from the rest

Q1. I. Describe the following (any 1): **1 × 10 = 10**

- a. Use of enzymes in preparation of sugar syrup of 'cola drink' for its desirable flavor and consistency
- b. Manufacture of soft drinks mentioning the CCPs

II. Define the following: **5 × 2 = 10**

- a. Nutraceutical
- b. Flavor syrup
- c. Technical enzyme
- d. Instant soluble coffee
- e. Functional food

Q2. Differentiate between (any 3): **3 × 5 = 15**

- a. Dry processing vs. Wet processing of Coffee beans at origin
- b. Conventional pasteurization of milk vs. Enzymatic pasteurization of milk
- c. Enzymatic clarification of Beer vs. Fruit juices
- d. Slimy vs. Pebbly coffee beans
- e. Removal of turbidity in cold tea With vs. Without enzymes

Q3. Analyze the challenges during manufacture of the following products and suggest ways to redress the same (any 3): **3 × 5 = 15**

- a. Preservation of natural antioxidants in a nutraceutical beverage
- b. Cocoa powder
- c. Maintenance of body in instant soluble coffee
- d. Roasting of coffee beans

Q4. Enumerate the following with examples.

- I. The roles of the following enzymes in food processing (any 3):** **3 × 5 = 15**
- a. α -amylase
 - b. Papain
 - c. Glucose oxidase
 - d. Lipooxygenase

II. The finishing operations in instant coffee manufacture that dictate its market value.

BE(FTBE) 3RD YEAR 2ND SEMESTER EXAMINATION 2024

FOOD PROCESS TECHNOLOGY IV

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Total Marks: 100

Part II (50 Marks)

Answer any five questions from the following: 5x10

1. Differentiate between sweetened condensed milk and evaporated milk. Mention the milk protein in MSNF, milk fat and milk solids content of evaporated milk and evaporated skimmed milk. (2+2)+6
2. What is homogenization? What is meant by homogenization index? Explain about valve of homogenizer. 2+5+3
3. What are the sources and functions of stabilizer and emulsifier for icecream manufacture. What is overrun of icecream? 3.5+3.5 +3
4. Condensed milk of 9.05% fat and 31% total milk solids is being prepared from 10000 kg milk containing 3.60% fat and 12.50% total milk solids. Cream from the same milk contains 40% fat
 - i) Find the fat to SNF ratio of milk and condensed milk.
 - ii) Calculate the SNF content of cream. 3+3+4
- 5.a) What is skim milk?
 - b) 2390 L of ice-cream was made from 1275 kg of ice-cream mix. The sp.gr of / icecream mix is 1.08. Find out % over run in ice cream.
 - c) 1926L of whole milk contains 4.8% milk fat and 9.1% SNF. Find the weight of the milk at 15°C. 2+ 4+4
6. a) Differentiate between spray dried and drum dried milk powder.
 - b) Explain about effect of viscosity of milk and droplet formation on spray dried milk powder. 4+3+3
7. Write short note on(any two): 2x5
 - a)fermentation of tea leaf for black tea production, b) milk carbohydrate
 - c) green tea d) soft serve icecream.