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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech III Year II Semester Regular Examinations July-2021

DAIRY AND FOOD ENGINEERING

(Agricultural Engineering)

Time: 3 hours

Max. Marks: 60

PART-A

(Answer all the Questions 5 x 2 = 10 Marks)

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|---|---|---|----|----|
| 1 | a | List out the causes of food spoilage. | L1 | 2M |
| | b | List out the methods of pasteurization along with temperature and time combination. | L1 | 2M |
| | c | Explain centrifugation. | L1 | 2M |
| | d | What are the factors affecting the liquid boiling point? | L1 | 2M |
| | e | Define reverse osmosis. | L1 | 2M |

PART-B

(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

- | | | | | |
|---|---|---|----|----|
| 2 | a | Write about the colostrums. | L1 | 5M |
| | b | What are the changes occurred during boiling of milk? | L1 | 5M |

OR

- | | | | | |
|---|---|---|----|----|
| 3 | a | Write about Total solids and total SNF. What is the amount of total solids and SNF with milk having 3% fat and density of milk is 1016 kg/m ³ (@20°C). | L3 | 5M |
| | b | Write short notes on density and specific gravity of milk and explain the determination of specific gravity by lactometer. | L2 | 5M |

UNIT-II

- | | | | | |
|---|---|---|----|----|
| 4 | a | Draw the process flow chart for preparation of sterilized milk (In-bottle sterilization). | L2 | 5M |
| | b | Draw the process flow chart for preparation of cheddar cheese. | L2 | 5M |

OR

- | | | | | |
|---|---|--|----|----|
| 5 | a | What should be the ratio of milk with 3% fat and cream with 45% fat to get the final milk with 4.5% fat? | L3 | 5M |
| | b | Explain the differences between blanching, pasteurization and sterilization. | L2 | 5M |

UNIT-III

- 6 a What are the pressure and temperature maintained during homogenization of milk? L2 5M
Why only those values?
- b Draw the flowchart for butter manufacture and state the principal equipment used. L2 5M

OR

- 7 a Write short notes on filling milk by gravity. L1 6M
- b What are the advantages of good plant layout? L1 4M

UNIT-IV

- 8 a Define evaporation. Write the objectives of evaporation. L1 6M
- b Explain the short tube and long tube evaporators with neat sketch. L2 4M

OR

- 9 a Explain the design of single effect evaporator with neat sketch. L2 5M
- b Explain forced circulation evaporator with neat sketch. L2 5M

UNIT-V

- 10 a Explain the working mechanism of air blast freezer with neat sketch. L2 5M
- b Discuss membrane processing and write the uses of membrane filtration. L1 5M

OR

- 11 a Discuss reverse osmosis and write the characteristics of reverse osmosis. L2 5M
- b What are the methods for controlling water content and explain the effect of water content during storage. L1 5M

END