23U357 (Pages: 2) Name: .....

Reg.No: .....

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U FTL3 B05 - FOOD ENGINEERING

(Food Technology - Core Course)

(2019 Admission onwards)

Time : 2.00 Hours Maximum : 60 Marks

Credit : 3

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 2 marks.

1. Define angle of repose of food materials.
2. Differenciate newtonian and non newtonian fluids.
3. Define frying.
4. Write the main advantages of cryogenic freezers.
5. Differenciate horizontal tube and vertical tube evaporator.
6. Define drum drying.
7. Mention the principle behind spray drier.
8. What is the principle behind freeze drying?
9. What is natural convection?
10. Write a note on general classification of heat exchangers.
11. Write any two drawbacks of pasteurization.
12. What is fire tube boiler?

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

Answer ***all*** questions. Each question carries 5 marks.

13. Define viscosity. Explain how apparent viscosity is calculated. Give the classification of non Newtonian liquids.
14. What are the various application of refrigeration in food processing?
15. Write about principle of freezing and freezing rate.
16. What are various application of evaporation in food processing?
17. Explain working of falling film evaporater.

18. Describe a scrapped surface heat exchanger and what are its special features.

19. Explain shell and tube heat exchanger with a neat diagram.

(Ceiling: 30 Marks)

Part C (Essay questions)

Answer any ***one*** question. The question carries 10 marks.

20. Explain unit operations in food engineering.

21. What is drying? Explain in detail about fluidized bed dryer, drum dryer and tunnel dryer with neat sketch.

(1 × 10 = 10 Marks)

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