

D 12014

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Name.....

Reg. No.....

**THIRD SEMESTER (CBCSS—UG) DEGREE EXAMINATION
NOVEMBER 2021**

Food Technology

FTL 3B 05—FOOD ENGINEERING

(2019—2020 Admissions)

Time : Two Hours

Maximum : 60 Marks

Section A*Answer at least **eight** questions.**Each question carries 3 marks.**All questions can be attended.**Overall Ceiling 24.*

1. What is the principle of freeze draying ?
2. Expand HTST and UHT.
3. What is Rheology ?
4. Enlist any *four* refrigerants.
5. Anemometer is used to measure what ?
6. Storage modulus in a rheogram represents what behaviour ?
7. Starch paste viscosity can be determined by using _____.
8. At _____ condition the water activity of food is equal to relative humidity.
9. Hysteresis is generally observed in _____ products.
10. Freezing time can be determined by using _____ equation.
11. Differentiate conduction and convection.
12. Differentiate sun drying and solar draying.

(8 × 3 = 24 marks)

Turn over

Section B

*Answer at least **five** questions.*

Each question carries 5 marks.

All questions can be attended.

Overall Ceiling 25.

13. Differentiate Newtonian and non-Newtonian fluids with examples.
14. Compare and contrast freezing and chilling.
15. Write a short note on vapour compression refrigeration system.
16. Differentiate between falling film and rising film evaporators.
17. Explain in detail the principle and application of a freeze dryer.
18. Write in brief the engineering properties of food material.
19. Explain in detail cryogenic freezing.

(5 × 5 = 25 marks)

Section C

*Answer any **one** question.*

The question carries 11 marks.

20. Differentiate drying and dehydration. Explain different methods of drying and their application.
21. What are the types of boilers ? With the help of a neat diagram explain the parts of a boiler.

(1 × 11 = 11 marks)