

19U597

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Name:

Reg. No.....

FIFTH SEMESTER B.Voc. DEGREE EXAMINATION, NOVEMBER 2021

(Regular/Supplementary/Improvement)

CC18U GEC5 FE13 – FOOD ENGINEERING

(Food Processing Technology – Common Course)

(2018 Admission onwards)

Time: Three Hours

Maximum: 80 Marks

PART A

Answer *all* questions. Each question carries 1 mark.

1. List the objectives of pasteurization.
2. Define Stefan's Boltzmann's constant.
3. What is steam economy of evaporator?
4. What are pseudoplastic fluids?
5. State the principle of food evaporation.
6. Define Fourier's law of heat conduction.
7. Define 1 Ton of refrigeration.
8. Give examples of direct freezing systems.
9. Define Rheology.
10. Give examples of indirect heat exchangers.

(10 × 1 = 10 Marks)

PART B

Answer any *eight* questions. Each question carries 2 marks.

11. Differentiate between LTLT and HTST Pasteurization.
12. Describe the principle of refrigeration.
13. Define viscoelasticity.
14. Differentiate between conduction and convection.
15. List the advantages of cryogenic freezing.
16. Differentiate between thixotropic and rheopectic fluids.
17. What are the advantages of multiple effect evaporator?
18. List the properties of ideal refrigerant.
19. What is the principle of drum dryer?
20. Differentiate between Newtonian and Non-Newtonian fluids.
21. Describe the different stages of vapor compression refrigeration system.
22. List the factors affecting drying.

(8 × 2 = 16 Marks)

PART C

Answer any *six* questions. Each question carries 4 marks.

23. Explain in detail radiation mode of heat transfer.
24. Write short notes on multiple effect evaporator.
25. Explain the components of boiler.
26. Describe in detail classical ideal bodies in rheology.
27. Explain in detail the working of scraped surface heat exchanger.
28. Write short notes on mechanism of drying.
29. Explain the working of fire tube boiler.
30. Schematically explain rising film evaporator.
31. Differentiate between plate freezing and immersion freezing.

(6 × 4 = 24 Marks)

PART D

Answer any *two* questions. Each question carries 15 marks.

32. Explain with neat diagram the working of fluidized bed dryer and spray dryer.
33. Describe in detail rheological classification of food.
34. Describe with neat diagram any three types of evaporators used in food industry.
35. Explain with neat diagram the construction and working of shell and tube and plate heat exchanger.

(2 × 15 = 30 Marks)
