Register No.: …… Name: ……..

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FOURTH SEMESTER B.TECH DEGREE EXAMINATION (Regular), JULY 2022

(2020 SCHEME)

Course Code : **20FTT296**

Course Name: **Novel Food Processing Technology**

Max. Marks : **100** **Duration: 3 Hours**

Draw Diagrams wherever necessary

PART A

(Answer all questions. Each question carries 3 marks)

1. State the principles of HPP.
2. What are the key components of HPP system? Give its functions.
3. What do you mean by the term Dia-filtration?
4. How is the dielectric breakdown possible by PEF?
5. Why is ohmic heating also called Joules heating?
6. What is Sonocrystallisation?
7. Write a short note on supercritical fluid extrusion.
8. What are half-products?
9. What are the potential hurdles in food preservation?
10. What do you mean by nanoencapsulation?

PART B

(Answer one full question from each module, each question carries 14 marks)

MODULE I

11. a) Discuss the mechanism of microbial inactivation in HPP. (6)
    b) Give the applications of HPP in food industry. (8)

OR

12. a) Write in detail on the instrumentation and working of HPP. (8)
    b) Explain the scope and importance of food processing in India. (6)

MODULE II

13. a) Describe the different membrane modules used in membrane separation (7)
    b) Explain the construction and design of treatment chamber in PEF (7)

OR

14. a) Give an account of different membrane separation techniques used in food industry. (8)

b) Enumerate the applications of PEF in food processing. (6)

MODULE III

15. a) Describe the Cavitation process in ultrasonication technology. Add a note on factors affecting cavitation. (7)
    b) Explain the theory and working of microwave Heating device. (7)

OR

16. a) Describe the heat generation process in ohmic heating. What are the factors governing heat generation in ohmic heating of foods? (7)
    b) Discuss the important applications of infrared heating in food processing. (7)

MODULE IV

17. a) Make a detailed note on different types of extruder. (7)
    b) Describe the physical and chemical effects of extrusion on food components. (7)

OR

18. a) Give an account of basic principle and components in an extruder. (7)
    b) Enlist the applications of extrusion technology in food industry. (7)

MODULE V

19. a) Discuss the applications of nanotechnology in food. (7)
    b) Explain the concept of hurdle technology with hurdle diagrams and illustrations. (7)

OR

20. a) Explain the various physico-chemical hurdles used to preserve foods. (7)
    b) Comment on the uses of hurdle technology in food industry. (7)

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