

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FOURTH SEMESTER B.TECH DEGREE EXAMINATION (R), MAY 2024**(2020 SCHEME)****Course Code : 20FTT296****Course Name: Novel Food Processing Technology****Max. Marks : 100****Duration: 3 Hours****PART A*****(Answer all questions. Each question carries 3 marks)***

1. Explain isostatic principle of high-pressure processing.
2. How does reverse osmosis work?
3. Compare ohmic heating and microwave heating.
4. What is hurdle barrier concept?
5. What do you mean by membrane technology?
6. Why carbon is important in nanotechnology?
7. What is the effect of ultrasound in food quality?
8. What are the benefits of extrusion technology?
9. Why nanomaterials unique in comparison to their bulk material?
10. What is extruder ratio?

PART B***(Answer one full question from each module, each question carries 14 marks)*****MODULE I**

11. a) Describe the effect of HPP on microbial food safety. (6)
- b) Explain the advantages and disadvantages of High-Pressure processing. (8)

OR

12. a) With the help of schematic representation explain the working of HPP? (6)
- b) What is the scope and significance of food processing industry in India? (8)

MODULE II

13. a) What are the advantages and challenges of using pulsed electric fields for food preservation? (6)
- b) What are the different types of membrane technology? (8)

OR

14. a) Explain the process and application of ultrafiltration in food industry. (7)
b) Explain the working and application of microwave processing. (7)

MODULE III

15. a) Explain the industrial application of ultrasound technology. (7)
b) Discuss the application of ohmic heating in food Industry. (7)

OR

16. a) Give an account of infrared heating in food processing? (6)
b) Explain the principle, application and related properties of radio frequency heating of foods? (8)

MODULE IV

17. a) Explain the application of extrusion technology in food industry and also explain its relevance? (8)
b) Make a detailed note on single screw extruder in food industry. (6)

OR

18. a) Discuss different types of extruders. (8)
b) Explain the physical and chemical effects of extrusion on food components. (6)

MODULE V

19. a) Enumerate the application of nanotechnology in food. (6)
b) Describe the advantages of combined preservation technology and also explain the concepts with hurdle diagrams. (8)

OR

20. a) Give the significance of hurdle technology in food industry. (6)
b) Illustrate a hurdle effect showing that food is microbiologically stable and safe. (8)
