

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FOURTH SEMESTER B.TECH DEGREE EXAMINATION (R), MAY 2023**(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. Define food process engineering.
2. Explain the key features of High-Pressure Processing.
3. Distinguish between reverse osmosis and ultrafiltration.
4. Explain how the inactivation of microorganisms is achieved using Pulsed Electric Fields.
5. Outline the basic parts for the generation of power ultrasound.
6. List down the properties of microwaves.
7. Define extrusion technology
8. List any two examples of cereal based, sugar based and protein based extruded food products.
9. What is hurdle technology?
10. What are the benefits of nanotechnology?

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

11. a) Summarize the advantages and disadvantages of High-Pressure Processing. (7)
b) Analyze the current and potential applications of High-Pressure Processing. (7)

OR

12. a) Outline the scope and importance of food process engineering. (6)
b) Discuss the types of high-pressure equipment used in food industries. (8)

MODULE II

13. a) Elaborate reverse osmosis materials and equipment along with applications of RO. (7)
b) Nanofiltration is a new class of pressure-driven membrane process, Justify. (7)

OR

14. a) Explain the critical factors in the inactivation of microorganisms using Pulsed Electric Field. (6)
b) Elaborate the potential applications of Pulsed Electric Field. (8)

MODULE III

15. a) Explain the principle and working of ultrasound technology. (7)
b) Discuss the applications of Infrared heating in food processing operations. (7)

OR

16. a) Illustrate the flow sheet for ohmic heating system along with the factors considered while choosing an ohmic heating system. (8)
b) Discuss the application of dielectric heating in food industries. (6)

MODULE IV

17. a) Elaborate on the effect of extrusion on the properties of food. (7)
b) What are the factors that increase the popularity of extruded food products? (7)

OR

18. a) Summarize the principle application of extrusion technology. (7)
b) Discuss different types of extruders used in food industry. (7)

MODULE V

19. a) Outline the types of hurdles in food preservation. (7)
b) Explain the applications of Hurdle Technology in food preservation. (7)

OR

20. a) Explain the role of nanotechnology in food industry. (7)
b) Define nanotechnology and explain the application of nanotechnology in food industry (7)
