Register No.: ..... Name: .....

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FIFTH SEMESTER B.TECH DEGREE EXAMINATION (S), FEBRUARY 2023

FOOD TECHNOLOGY

(2020 SCHEME)

Course Code : 20FTT301

Course Name: Food Process Engineering

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

PART A

(Answer all questions. Each question carries 3 marks)

1. What is angle of repose? Explain its application in food industry.
2. What is meant by Dextrinization of starch?
3. Explain Kick's law for the size reduction.
4. What is meant by homogenization? Discuss the advantages of it.
5. What is meant by water activity?
6. State Pham's method of thawing.
7. Differentiate deep and shallow frying.
8. Briefly explain the heat and mass transfer process during frying process.
9. Brief the different factors effecting extrusion process.
10. What is the effect of intermediate moisture content and pH as a hurdle in food preservation?

PART B

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

MODULE I

11. a) What are the different functional properties of food materials? (10)
    b) Discuss the importance of blanching in the preservation of food. (4)

OR

12. Elaborate different wet and dry methods of cleaning. (14)

MODULE II

13. a) What is meant by emulsification? Discuss the properties of emulsifiers. (7)
    b) Explain the different functions of Emulsifiers. (7)

OR

14. With neat schematic diagram explain the working of (14)

i) Roller mill ii) Impact mill

MODULE III

15. a) Explain the working of a vapor compression refrigeration system. (10)
b) Differentiate vapor compression and vapor absorption refrigeration system. (4)

OR

16. a) Explain the methods of determination of freezing time. (7)
b) With schematic diagram explain the mechanism of a freeze drier. (7)

MODULE IV

17. a) Elaborate the different stages of baking. (10)
b) Explain the physiochemical changes happening during frying process. (4)

OR

18. Explain the effect of roasting on different properties of foods. (14)

MODULE V

19. a) Explain Hot and Cold methods of extrusion. (10)
b) Elucidate the application of Ohmic heating in food processing. (4)

OR

20. With a neat schematic diagram explain the working and construction of a Pulse electric field equipment. (14)

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