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

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FIFTH SEMESTER B.TECH DEGREE EXAMINATION (R,S), DECEMBER 2023
FOOD TECHNOLOGY

(2020 SCHEME)

Course Code : **20FTT307**

Course Name: **Cereal and Legume Technology**

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

PART A

(Answer all questions. Each question carries 3 marks)

1. What are the main physicochemical changes that occur during the parboiling of rice?
2. Briefly describe the role of a husker in the rice milling process.
3. Give the names of two types of wheat flour and briefly explain the differences between them.
4. What is the nutrient composition of barley, and how does it differ from wheat in terms of nutritional content?
5. Explain the main differences between dry milling and wet milling in the processing of corn.
6. Emphasize the health benefits of millets.
7. Explain the role of High Fructose Corn Syrup (HFCS) in the food industry.
8. What are protein isolates, and how are they processed to create functional food ingredients?
9. List 3 antinutritional factors found in pulses and explain their significance.
10. Name the storage structure commonly used for storing pulses, and briefly explain its advantages.

PART B

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

MODULE I

11. Explain the steps involved in the parboiling process of rice, including soaking, steaming, and drying. Discuss the significance of each step. (14)

OR

12. Detail the byproduct utilization in rice processing, with a focus on the processing of rice bran oil. Explain the methods involved and the benefits of rice bran oil. (14)

MODULE II

13. Describe the wheat milling process, highlighting the functions of the break roll, reduction roll, purifier, plan sifter, scalping, and scratch system. (14)

OR

14. Outline the steps involved in the commercial production of malt from barley, including malting and its applications in the beverage and food industries. (14)

MODULE III

15. Detail the processing methods for pearl and finger millets, including any unique characteristics or applications associated with each type. (14)

OR

16. Describe the oat processing methods and their applications in the food industry, considering the nutritional value and health benefits of oats. (14)

MODULE IV

17. Compare and contrast the manufacturing processes of noodles and pasta, discussing how different ingredients and shaping methods result in their distinctive characteristics. (14)

OR

18. Discuss the processing steps involved in making popcorn and puffed snacks, highlighting the science behind their expansion and potential variations in production techniques. (14)

MODULE V

19. Describe the processing methods involved in the production of soybean-based products and their nutritional significance in the food industry. (14)

OR

20. Compare and contrast the different storage structures for pulses, including bag storage, cover and plinth, CAP storage, and ceiling and plinth storage. Explain the suitability of each method in various contexts. (14)

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