C **303B3** **Total pages: 2**

Register No: …… Name: .....

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

SIXTH SEMESTER B.TECH DEGREE EXAMINATION(R,S), MAY 2024

Food Technology

(2020 SCHEME)

Course Code : **20FTT 306**

Course Name : **Food Additives and Flavorings**

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

PART A

(Answer all questions. Each question carries 3 marks)

1. What is the concept of Acceptable Daily Intake (ADI) for food additives?
2. List any 6 role of food additives in food safety and consumer protection.
3. What are the different types of preservatives used in food, and how do they differ from each other?
4. What are some common sources of antioxidants in the diet, apart from food additives?
5. Name two thickening agents commonly used in dairy products and their functions.
6. How do stabilizers work on food?
7. What are the applications of protease enzyme?
8. What factors influence the choice of food colors in food products?
9. How does an E-Nose contribute to flavor analysis?
10. How are natural food flavors different from artificial flavors?

PART B

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

MODULE I

11. Explain the role of CODEX Alimentarius in regulating food additives globally and its significance in international trade. 14

OR

12. Discuss the concept of maximum tolerance limits for food additives. How are these limits established, and what factors are considered in their determination? 14

MODULE II

13. What are the primary functions of antioxidants in biological systems and food products? Describe the mechanisms by which antioxidants neutralize free radicals and prevent oxidative stress. 14

OR

14. Compare and contrast natural and synthetic preservatives in terms of their sources, chemical properties, effectiveness, and safety considerations. Discuss the advantages and disadvantages of each type with relevant examples. 14

MODULE III

15. Investigate the role of emulsifiers in promoting sustainability within the food industry. How can the sourcing, production, and disposal of emulsifiers be optimized to minimize environmental impact? How do regulatory standards vary between countries, and what are the key considerations for ensuring compliance with safety and labeling requirements? 14

OR

16. What are the regulatory considerations regarding the use of emulsifiers in food products? Discuss the safety assessments and permissible levels established by food safety authorities, as well as potential health concerns associated with emulsifier consumption. 14

MODULE IV

17. Evaluate the health and safety considerations associated with the consumption of natural and synthetic food colors. What are the potential risks and benefits of using coloring agents in food products, and how do regulatory agencies assess their safety profiles? Discuss emerging research on the health effects of coloring agents and the importance of consumer awareness. 14

OR

18. Evaluate the potential health effects and safety considerations associated with the consumption of nutritive and non-nutritive sweeteners. 14

MODULE V

19. Compare and contrast natural, natural identical, and artificial flavoring agents, exploring their sources, production processes, and regulatory considerations in the food industry. 14

OR

20. Discuss the diversity of flavor products available in the market, highlighting the various forms and applications of flavors in food and beverage industries.Explain the concept of Scoville Units and their significance in quantifying the heat levels of chili peppers and spicy products. 14

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