

Register No:

Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

EIGHTH SEMESTER B.TECH DEGREE EXAMINATION(R), MAY 2024**Food Technology
(2020 SCHEME)****Course Code : 20FTT436****Course Name : Food Industry Waste Management****Max. Marks : 100****Duration:3 Hours****PART A***(Answer all questions. Each question carries 3 marks)*

1. What are the common by-products which can be generated from dairy industries?
2. Describe the various sources of waste in beverage industry.
3. Suggest some methods to effectively reduce Fat, Oil, and Grease content in food waste, highlighting its advantages.
4. Explain the significance of microbiology of food waste in waste management.
5. What is anoxic process of waste water treatment and how it is different from other biological treatment process?
6. Write about some of the common chemicals used as coagulants and flocculation.
7. What is the process of composting? How is it different from vermicomposting?
8. What is the primary mechanism of pollutant removal in oxidation ditches?
9. What are the primary factors influencing the initial investment in waste treatment and disposal infrastructure?
10. What are the key objectives of environmental standards governing the emission or discharge of pollutants from the food industry?

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

11. Outline the waste management strategies in a fruit and vegetable processing industry. 14

OR

12. Elaborate on the classification of food processing wastes based on their applications. 14

MODULE II

13. Examine the presence and impact of insecticide, pesticide, and fungicide residues in food waste on human health and the environment. Discuss the sources and types of residues commonly found in food waste, elucidating their persistence and potential for bioaccumulation. 14

OR

14. Explore the role of metal content, specifically focusing on the forms of phosphorus and sulphur, in waste management practices and environmental sustainability. Analyze the sources of these metals in waste streams, their impact on soil, water, and air quality, and their potential for recycling or recovery. 14

MODULE III

15. Draw a schematic diagram of a sustainable waste water treatment plant and explain the process involved. 14

OR

16. Compare and contrast coagulation and flocculation as essential processes in water treatment. 14

MODULE IV

17. Compare and contrast the two methods recycling process of food waste. 14

OR

18. Discuss on the effectiveness and environmental impacts of effluent treatments using lagoons and activated sludge processes. Discuss their mechanisms, operational considerations, and treatment efficiencies in removing pollutants from wastewater. 14

MODULE V

19. Examine the biological methods typically utilized for food waste disposal within the food industry, detailing their efficacy, environmental implications, and the potential obstacles they may encounter during implementation. Include propose strategies for fostering sustainable waste management practices in the food sector. 14

OR

20. Wastewater treatment in the food industry plays a crucial role in reducing environmental pollution and safeguarding water resources. Compare and contrast three primary methods of wastewater treatment commonly employed by food industry. Also, evaluate the sustainability and cost-effectiveness of each treatment approach, considering factors such as energy consumption, chemical usage, and long-term environmental impact. 14
