

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

**SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)**

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

**THIRD SEMESTER B.TECH DEGREE EXAMINATION (S), MAY 2022****FOOD TECHNOLOGY  
(2020 SCHEME)****Course Code: 20FTT205****Course Name: Food Chemistry****Max. Marks: 100****Duration: 3 Hours****PART A***(Answer all questions. Each question carries 3 marks)*

1. What are proteins? Illustrate the formation of a peptide bond.
2. Discuss about calorific value of food
3. How are carbohydrates classified based on polymerization? Give examples.
4. Correlate the role of Vitamin D and Calcium in human body.
5. Explain the components of starch.
6. What are hydrogenated fats?
7. What is meant by denaturation?
8. Differentiate between moisture content and water activity.
9. What are different food groups?
10. What are trans fatty acids?

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

11. a) Explain about structure of water molecule with a neatly labelled diagram. (6)
- b) 'Hydrogen bonding is responsible for all the properties of water'. Discuss. (8)

**OR**

12. a) 'Water activity determines the shelf life of a food product'. Substantiate and explain. (6)
- b) How can we estimate the water activity and moisture content in a food product? (8)

**MODULE II**

13. a) Explain the structure and functions of any three monosaccharides. (7)
- b) Write a note on modified and resistant starch. (7)

**OR**

14. a) Illustrate and explain the structure of sucrose and maltose. (10)
- b) Write a note on the application of pectin in food industry. (4)

**MODULE III**

15. a) Why amino acids are known as the building blocks of proteins? Explain. (4)  
b) Explain the classification of proteins based on function (10)

**OR**

16. a) Elaborate on role of enzymes in food industry. (8)  
b) What is denaturation and what are the agents which causes denaturation in proteins. (6)

**MODULE IV**

17. a) Antioxidants can be added to delay the onset of deterioration of fat. Justify the statement and explain. (7)  
b) What are fat replacers? How are they classified? (7)

**OR**

18. a) Discuss about classification and nomenclature of lipids. (7)  
b) Enumerate the physico-chemical properties of fats. (7)

**MODULE V**

19. a) 'India experiences double burden of malnourishment'. Substantiate your answer with suitable examples. (6)  
b) The intake of dietary fibre helps to control non-communicable diseases in humans. Justify the statement and explain. (8)

**OR**

20. a) Discuss in detail about the energy components of food. (7)  
b) Various factors influence BMR. Which are they? Explain. (7)

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