Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 09

Master of Science (Food Technology) (Sem.–1)

FOOD CHEMISTRY

Subject Code : UC-MSFT-511-19

M.Code : 77271

Date of Examination : 14-01-23

Time : 3 Hrs. **Max. Marks : 70**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A contains SEVEN questions carrying TWO marks each and students has to attempt ALL questions.**
2. **SECTION-B consists of FOUR Subsections : Units-I, II, III & IV. Each Subsection contains TWO questions each carrying FOURTEEN marks each and student has to attempt any ONE question from each Subsection.**

SECTION-A

1. a. Maillard reaction

   b. Essential amino acids

   c. Antioxidants

   d. Reducing Sugars

   e. Non-Enzymatic reaction

   f. Gelatinization of starch

   g. Rancidity

SECTION-B

UNIT-I

2. a. Explain and discuss the structure, and various functional properties of starch and elaborate on the different methods used for starch modification.

b. What do you understand by dietary fibre and differentiate between soluble and insoluble fibres with examples?

3. a. Discuss the classification of carbohydrates and the physical and chemical properties of the carbohydrates.

b. Explain and draw the structure of the following: Sucrose, Maltose, and Lactose.

UNIT-II

4. a. Define anti-nutritional factors present in food, and relate them with processing.

b. Discuss the different classifications of proteins ; explain the essential amino acids with examples.

5. a. What are the different functional properties possessed by the proteins?

b. How do you understand the functional protein of protein, discuss the different functional properties possessed by proteins.

UNIT-III

6. a. Define lipids and write the different functional properties possessed by lipids.

b. Discuss the role of emulsifiers in the food industry and name different types of emulsions with examples.

7. a. Explain the different types of vitamins, their classification, and their functional properties.

b. What do you understand by antioxidants, discuss the role of antioxidants in the diet?

UNIT-IV

8. What do you understand by the term browning; explain the non-enzymatic browning in the food samples in detail.

9. a. What is caramelization and what are the different ways in which caramelization is used in the food industry?

b. What are the physical and chemical changes occurred during the storage of the fruits?