

GUJARAT TECHNOLOGICAL UNIVERSITY

B.VOC- SEMESTER-I EXAMINATION – WINTER 2024

Subject Code:BV01009021

Date:23-12-2024

Subject Name: Food Chemistry

Time:10:30 AM TO 12:30 PM

Total Marks:50

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) Explain the role of water in maintaining the quality and safety of foods.	05
	(b) Describe the structure of water and ice and their significance in food preservation.	05
Q.2	(a) What are the different types of water in food? Give examples.	05
	(b) Define water activity and discuss its impact on the shelf life of foods.	05
	OR	
	(b) Differentiate between the types of water present in food systems with examples.	05
Q.3	(a) Classify carbohydrates with suitable examples for each type.	05
	(b) Explain the properties of monosaccharides and disaccharides.	05
	OR	
Q.3	(a) What is invert sugar? Discuss its applications in the food industry.	05
	(b) Discuss the role and applications of modified starches in food systems.	05
Q.4	(a) Classify lipids and give examples of each category.	05
	(b) Explain the role of lipids in food flavor, texture, and nutritional value.	05
	OR	
Q.4	(a) Discuss the physical and chemical properties of lipids that affect their use in foods.	05
	(b) What are the qualitative changes in fats and oils during storage and processing?	05
Q.5	(a) Classify proteins and explain their structural organization.	05
	(b) Discuss the properties of proteins and their functional roles in food systems.	05
	OR	
Q.5	(a) What is protein denaturation? Explain its causes and effects on food quality.	05
	(b) Compare the nutritional and functional roles of proteins in foods.	05
