Total number of printed pages: 02 **D/IV/DFET402**

2024

BASICS OF FOOD CHEMISTRY

Full Marks: 100

Time: Three hours

The figures in the margin indicate full marks for the questions.

*Answer **any five** questions.*

1.	a)	Explain Caramelization and its consequences.	5
	b)	What are D and L isomers? Show the structure of D and L glyceraldehyde.	2+4
	c)	What are artificial flavouring agents? Give examples.	4
	d)	What are essential amino acids? Give examples.	5
2	a)	Explain the primary structure of protein.	4
	b)	What are reducing and non-reducing sugars? Explain with examples.	6
	c)	Define water activity. Explain the relationship between moisture content and water activity?	6
	d)	Define food additives. Write the important functions of food additives.	4
3	a)	Define the following terms: i) Sugar ii) Dipeptide iii)Bound water iv) Triose sugar v) Amino acid	2x5
	b)	Draw the ring forms of glucose and fructose?	5
	c)	Give the important functions of protein.	5
4.	a)	Classify oligosaccharide giving suitable examples.	6
	b)	What are fatty acids? Give three important characteristics of fatty acids.	5
	c)	Show the formation of dipeptide bond.	5
	d)	Draw Fischer projection of D-Glucose & L-Glucose.	4
5	a)	Define disulphide bond. Show the tertiary structure of protein.	2+4
	b)	Explain how will you classify lipids?	6
	c)	Compare cis fat with trans-fat.	4
	d)	Define hydrolysis. What are the product of hydrolysis of lactose, maltose,	4

and sucrose?

6 a) Distinguish between: 4x3

i) Amylose and amylopectin

ii) Fats and oils

iii) Saturated and unsaturated fatty acid

b) Show the formation of a disaccharide bond. 4

c) Define SCFA, LCFA, MCFA and VLCFA 4

7 a) Write brief notes on: (any four) 4x4

i) Maillard reaction

ii) Polysaccharide

iii) Rancidity

iv) Protein denaturation

v) Saponification

b) What are anticaking agents? Give examples. 4

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