

2026

FOOD PROCESSING TECHNOLOGY

Course Name : Food Chemistry and Nutrition-I

Course Code : FPT-DSC-2014

Full Marks : 45

Time : 2 Hours

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

1. Choose the correct answer : 1x5=5
- a) Starch is a :
 - i) Monosaccharide
 - ii) Polysaccharide
 - iii) Disaccharide
 - iv) Fat
 - b) Which of the following is a macronutrient ?
 - i) Vitamin C
 - ii) Iron
 - iii) Carbohydrate
 - iv) Sodium
 - c) Proteins are made up of :
 - i) Fatty acids
 - ii) Amino acids
 - iii) Monosaccharides
 - iv) Minerals
 - b) Dietary fibre helps in :
 - i) Increasing cholesterol
 - ii) Digestion
 - iii) Protein synthesis
 - iv) Fat storage
 - e) Lipids are soluble in
 - i) Water
 - ii) Alcohol
 - iii) Organic solvents
 - iv) Acids.

(Turn over)

2. Answer the following questions (*any five*) : $2 \times 5 = 10$
- What are amino acids ?
 - Why pulses are known as poor man's meat ?
 - What is enzymatic browning ? Give one example.
 - Differentiate between reducing and non-reducing sugar.
 - Write two functions of dietary fibres in diet.
 - What are essential fatty acids ? Name any two.
 - Explain briefly the concept of fat rancidity.
3. Answer the following questions (*any four*) : $5 \times 4 = 20$
- What are carbohydrates ? Name two food sources rich in carbohydrate. Classify carbohydrates and give one example of each. $1 + 1 + 3$
 - What are nutrients ? Write the classification of nutrients. Mention two importance of nutrients in food processing and health. $1 + 2 + 2$
 - Explain the scope and importance of food chemistry in food processing and nutrition. 5
 - Describe the biological role of proteins. 5
 - What are lipids ? Differentiate between fats and oils. What are triglycerides ? $1 + 2 + 2$
 - Write the mechanism of auto-oxidation of lipids. 5
4. Answer the following questions (*any one*) : $10 \times 1 = 10$
- What is starch ? Differentiate between amylose and amylopectin. Explain briefly with suitable diagram the concept of starch gelatinization and retrogradation. $1 + 3 + 6$
 - With suitable diagram explain the classification of proteins on the basis of structure and shape. Write short note on protein coagulation. $7 + 3$
 - Differentiate between saturated and unsaturated fatty acids. Explain briefly the classification of lipids with suitable examples. Briefly explain the concept of MUFA. $2 + 6 + 2$

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