



KERALA AGRICULTURAL UNIVERSITY
B. Tech.(Food Technology) 2025 & Previous Admission
II Semester Final Examination – July 2026

FSQ 1202

Food Chemistry I (2+1)

Marks: 50
Time: 2 hours

I Fill in the blanks (10x1=10)

1. The temperature at which food transforms from a glassy to a rubbery state is called the
2. is the term used to describe the loss of water from food during drying.
3. The enzyme responsible for breaking down starch into sugars is called
4. Lipid rancidity caused by reaction with oxygen is known as rancidity.
5. The process of removing free fatty acids and impurities from crude oil is called

State True or False

6. Water activity (a_w) measures the amount of free water available for microbial growth in food.
7. Hydrogenation of oils increases the number of double bonds in fatty acids.
8. Proteins can act as emulsifying agents in food systems.
9. The Maillard reaction is an enzymatic browning process.
10. Saponification value indicates the average molecular weight of fats and oils.

II Write short notes on ANY FIVE of the following (5x2=10)

1. What is bound water in food?
2. What is a sol in food systems? Give an example.
3. What are monosaccharides? Give two examples.
4. What is enzymatic browning in foods?
5. Mention two functional properties of proteins in food systems.
6. What is rancidity in fats and oils? Mention its types.
7. What is the role of antioxidants in lipids?

III Answer ANY FIVE of the following (5x4=20)

1. Explain the functional properties of water in food systems. How does water influence food texture and stability?
2. Explain the physicochemical aspects of food dispersion systems with examples. Discuss the importance of dispersed systems in food processing.
3. Classify carbohydrates and explain their nutritional and functional roles in food.
4. Discuss the enzymatic and chemical reactions of carbohydrates occurring during food processing.
5. Explain the classification, structure, and functional properties of proteins in food system.
6. Describe the processing-induced physical, chemical, and nutritional changes in proteins.
7. What are dietary fiber structurally? How these are nutritionally important?

IV Write an essay on ANY ONE of the following (1x10=10)

1. Explain in detail water mobility and food stability.
2. Importance of Enzyme Assays in Food Quality Analysis
