



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech. (Food Technology) 2022 Admission**  
**II Semester Final Examination – September 2023**

Pafe.1204

**Food Chemistry of Macronutrients (2+1)**

**Marks: 50**  
**Time: 2hours**

**I Choose the correct answer**

**(10 x 1=10)**

1. Amylase acts on
  - a. Protein
  - b. Carbohydrate
  - c. Fat
  - d. Minerals
2. Which of the following starch paste forms clear gel on cooling?
  - a. Corn
  - b. Rice
  - c. Wheat
  - d. Cassava
3. Zein is a \_\_\_\_\_ type of protein
  - a. Albumin
  - b. Globulin
  - c. Glutelin
  - d. Prolamin
4. Which of the following is considered as best quality protein?
  - a. Cereal protein
  - b. Soy protein
  - c. Egg protein
  - d. none
5. Limiting essential amino acid in wheat is
  - a. Leucine
  - b. Lysine
  - c. Phenylalanine
  - d. Isoleucine
6. Waxy starch contains
  - a. Amylose
  - b. Amylopectin
  - c. Both
  - d. None
7. Staling of bread occurs due to
  - a. Saccharification
  - b. Retrogradation
  - c. Caramelization
  - d. Browning
8. Iodine value of soybean oil is about
  - a. 100
  - b. 130
  - c. 35
  - d. 58

9. Butter has about \_\_\_\_\_ % water
- 10
  - 16
  - 24
  - 34
10. Which of the following is not associated with lipid processing?
- Degumming
  - Bleaching
  - Deodorization
  - Sterilization

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

1. What do you mean by sol and gels? Explain with suitable examples of food products.
2. What do you mean by foams? Explain with suitable examples of food products.
3. What is water activity? Give range of water activity with respect to shelf life of foods
4. Differentiate between acid value and saponification value.
5. Enlist the prevention measures for rancidity.
6. What do you mean by hydrolytic rancidity? Explain briefly.
7. Briefly explain structural organization of protein.

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

1. Explain briefly caramelization.
2. Write note on complex carbohydrates.
3. Explain functional properties of modified starches.
4. Classify frying techniques of food.
5. Write note on dispersion system.
6. Types and role of antioxidants
7. Explain types and properties of gums.

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

1. Write note on enzymatic and chemical reaction of protein.
2. Write note on oil extraction and refining stages.

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