AU–40

B.Sc. (Part—I) Semester—I Examination

1S : FOOD PROCESSING AND TECHNOLOGY

(Food Chemistry)

Time : Three Hours] [Maximum Marks : 80

N.B. :— (1) Solve **ALL** questions.

(2) Use diagram wherever necessary.

1. (A) Fill in the blanks : 2

(i) 1000 μg = _____ mg.

(ii) Fatty acids having single bond is called _____ fatty acid.

(iii) _____ is the essential source of energy for brain.

(iv) The enzyme in Saliva is known as _____ .

(B) Choose the correct options : 2

(i) The BMR stands for :

(a) Body mass ratio (b) Body metabolic rate

(c) Basal metabolic rate (d) All of the above

(ii) Night blindness is observed due to :

(a) Vit. A (b) Vit. B_1

(c) Vit. B_{12} (d) All of the above

(iii) Citrus fruits are rich in Vitamin :

(a) A (b) B

(c) E (d) C

(iv) Osteoporosis is due to deficiency in :

(a) Calcium (b) Iron

(c) Zinc (d) All the above

(C) Answer in **one** sentence : 4

(i) Define pH.

(ii) What is RDA ?

(iii) What is atomic weight ?

(iv) Define MVFA.

2. (A) Explain the term emulsion and foam. 4

(B) Classify unit operations. 4

(C) State about surface tension. 4

OR

(D) Define viscosity and give its significance. 4

(E) What is Kwashiorkor ? How to prevent it ? 4

(F) Define the terms boiling point and melting point. 4

3. (A) Explain the RDA for Calories and Protein. 4

(B) What do you understand by protein calorie malnutrition ? 4

(C) Draw well labelled diagram of bomb calorimeter. 4

OR

(D) What is BMR ? Enlist the factors affecting BMR. 4

(E) What are the food nutrients and their sources ? 4

(F) What is balanced diet ? 4

4. What are Carbohydrates ? How they are classified ? Give examples of each class. 12

OR

Draw the structure of starch. Differentiate between amylase and amylopectin. 12

5. (A) How to classify proteins ? 4

(B) Differentiate between essential and non-essential aminoacids. 4

(C) State the functions of proteins. 4

OR

(D) What is protein denaturation ? State its significance. 4

(E) State the properties of protein. 4

(F) Give the structures of : 4

(i) lysine

(ii) protein

(iii) valine

(iv) Tryptophan.

6. (A) Give the structures of : 4

(i) Oleic acid

(ii) Linolenic acid

(iii) Stearic acid

(iv) Archidonic acid.

(B) What are the food sources of fat ? 4

(C) Differentiate between saturated and unsaturated fats. 4

OR

(D) Explain the rancidity of fats. How to prevent it ? 4

(E) State the functional properties of lipids. 4

(F) State the food application of lipids. 4

7. What are Vitamins ? How they are classified ? Give the structure and biochemical functions of Vitamin B_1. 12

OR

What are minerals ? Give the sources, functions and symptoms of Calcium and Iron. 12