Ref. No. Ex/FTBE//BS/B/T/213/2023(S)

B.E (FTBE) 2nd YEAR, 1ST SEMESTER SUPPLEMENTARY EXAMINATION 2023

FOOD CHEMISTRY

Time: Three hours | Full Marks: 100

(50 marks for each part)
Use a separate Answer-Script for each part

PART- I (50 MARKS)

Q1. Differentiate between (any 4): **4 × 5 = 20**

a. True fat vs. Crude fat
b. Hydrolytic vs. Oxidative rancidity
c. Denaturation vs. Proteolysis
d. Prooxidants vs. Antioxidants
e. TD vs. co-efficient of protein digestibility

Q2. Explain the following (any 5): **5 × 6 = 30**

a. Formation and quantification of protein-stabilized foams
b. Principal attributes of fatty acids in vegetable oils
c. Olive oil is consumed as a salad oil while Mustard oil as a summer oil
d. Oleic acid displays slip melting point.
e. Anti-nutritional factors of soybeans that affects its BV
f. Importance of estimating PER when BV is the best protein quality index
g. Assessment of safe level of essential amino-acid make up of a protein-rich food for geriatric population
h. Shelf-stability and Quality are inversely related in an edible oil
i. Kinetics of Dissociation and Association in 3° folded PP chains and their Amino-acid make-up dictates protein gel formation
j. The limit of hydrogenation of edible fats is 37 °C.

[Turn over

Ref. No. : Ex/FTBE/BS/B/T/213/2023(S)

B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING SECOND YEAR FIRST SEMESTER SUPPLEMENTARY EXAM – 2023

FOOD CHEMISTRY

Time: 3hours Full Marks: 100

Part II (Marks:50)

Answer any five questions from the following: **5x10**

1.Explain the following:
a) Seliwanaff's test for identification of carbohydrates.
b) factors affecting gel formation by pectin 2x5

2. State the differences between:
a) amylose and amylopectin.
b) starch and cellulose 2x5

3. What is carbohydrate? Give one example each of monosaccharide, disaccharide and polysaccharide. Explain Gelatinization and retrogradation of starch. 2+1.5+6.5

4. What is pectin? What is meant by 200 grade pectin? Comment on proto pectin and pectic acid 2.5+2.5+5

5.Explain β-carotene and canthaxanthin. 5+5

6. What is vitamin D? State the sources, functions and deficiency problem of vitamin D. 2.5+2.5+2.5+2.5

7.What are the sources and functions of Sodium, Iron and Zink. 3+4+3