

Ref. No. : Ex/FTBE/BS/B/T/213/2024(S)

**B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING SECOND
YEAR FIRST SEMESTER SUPPLEMENTARY EXAM - 2024**

FOOD CHEMISTRY

Time : 3 Hours

Full Marks : 100

Use separate answer script for each part.

PART- I (50 MARKS)

Q1. Fill in the blanks:

10 × 2 = 20

- a. The ratio of $\omega 6:\omega 3$ fatty acids in India ideally should be.....
- b. The only synthetic antioxidant permissible in edible oils is.....
- c. Ghee has RM value of 15; when adulterated with *Dalda*, its RM would be.....
- d.fat has the highest saponification number.
- e. Sterols comprise of.....portion of crude fat.
- f. An example of unconventional food protein source is.....
- g. Digestibility of food proteins is primarily influenced by
- h. *Bowman Birk* inhibitors are classified as.....
- i. Essential amino acids whose concentrations in a protein-rich food is less than the reference protein are known as.....
- j. The principal bonding type that stabilizes a protein molecule both internally and externally is ofnature.

Q2. Write short notes on (any 5):

5 × 6 = 30

- a. Importance of evaluating RM, K and P values for edible fats and oils with examples
- b. Fats display slip melting point
- c. Explain formation of egg protein gel
- d. Analyses of PER, BV and NPU values of milk protein
- e. Explain oxidative rancidity and its prevention
- f. Principal attributes of fatty acids in vegetable oils

[Turn over

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Part II (50)

Answer Q1 and Any three(Q2-Q6) questions from the following: 4x5+3x10

1.Explain the following:

- a) gelatinization and retrogradation of starch
- b) anthocyanin.
- c) sources and functions of Iron.
- d) cellulose

2a) Differentiate between amylose and amylopectin. Give one example each of

ketohexose, non reducing disaccharide, reducing monosaccharide, pentose,

b) Explain Molish Test for identification of carbohydrates. 4+2+4

3.What is pectin? Explain slow set and quick set gel? What is meant by 200 grade pectin? 3.5+4 +2.5

4. Mention the carotenoid responsible for colour of carrot, tomato and spinach.

Give one example each of water and fat soluble pigment. What is Chlorophyll?

3+2+5

5.State sources, functions and deficiency problems of Vitamin A and Vitamin D

5+5

6. Mention the sources and functions of Magnesium, Calcium, Potassium. 4+3+3