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

B.E (FTBE) THIRD YEAR, FIRST SEMESTER SUPPLEMENTARY EXAMINATION 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 ω6:ω3 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* inhibiters 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 of .....nature.

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

Food Chemistry

Time: 3hours Full Marks: 100

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