

B.Tech
2022
3rd Sem

B. TECH FOOD TECHNOLOGY
III Semester Examination, 2023
Course Title - Food Chemistry
Course Code- BFTC- 301

Time: 3 Hours

Max Marks 75

Note: 1. Answer all the questions in Section-A.
2. Answer any five questions in Section- B.

Section A

Q1. State the Following:

(15M)

- (a) The simplest aldose sugar _____
- (b) Sugars with five membered rings are known as _____ and six membered rings are known as _____
- (c) Sugars with 2-10 monosaccharide units are known as _____
- (d) The process of shifting of a hydrogen atom from one carbon to another to produce enediols is known as _____
- (e) Reducing sugars when boiled with phenylhydrazine in acetic acid results in the formation of _____
- (f) _____ is commonly known as milk sugar
- (g) Starch is made up of two polysaccharide constituents namely _____ and _____
- (h) Oils which are resistant to reversion are _____ and _____
- (i) The adulteration of butter can easily be tested by _____ number.
- (j) The disulfide bond is present in _____ amino acid.

Choose the correct answer

- (k) Fructose is a
 - (i) Ketohexose Sugar
 - (ii) Aldohexose Sugar
 - (iii) Ketoheptose Sugar
 - (iv) Aldooheptose Sugar
- (l) A Carbon atom attached to four different atoms or groups is said to be
 - (i) symmetric carbon
 - (ii) asymmetric carbon
 - (iii) geometric carbon
 - (iv) isomer carbon
- (m) Glucose contains 4 asymmetric carbons, how many isomers it can form?
 - (i) 2
 - (ii) 4
 - (iii) 8
 - (iv) 16

(n) The IUPAC representation of cis-9- octadecenoic acid will be

(i) 18:1 Δ 9

(ii) 18:3 Δ 9

(iii) 18:0 Δ 9

(iv) 18:2 Δ 0

(o) The functional groups in amino acid are

(i) amino and anomers

(ii) carboxyl and anomers

(iii) amino and carboxyl

(iv) anomers and chiral

Q2. Answer any two of the following

(5x2)

(a) Properties of water and ice

(b) The effect of water on food stability.

(c) Different tests to determine the purity of fats & oils

Section B

Q3. Discuss in detail the types of browning reactions occurring in food.

(10M)

Q4. Explain in detail

(5x2)

(a) Classification and function of lipids

(b) Protein Denaturation and its effect on protein quality

Q5. Priya forgot to close the jar of oil after its use. What changes do you think that the left uncovered oil would undergo? Explain.

(10M)

Q6. The ripened fruit is more palatable than raw fruit. Illustrate the changes that occurs during the growth of fruit attached to the plant.

(10M)

Q7. Through proper diagrams explain the structural hierarchy in proteins.

(10M)

Q8. Vitamins play vital role in maintaining health. Support the argument with scientific reasoning.

(10M)

Q9. Through which different processes fats can undergo compositional changes for acquiring different functionalities.

(10M)

Q10. Discuss the following

(5x2)

(a) Lipid Refining

(b) Physiological Role of Macronutrients