

# KANYASHREE UNIVERSITY

M.Sc. 1<sup>st</sup> Semester Examination-2024

Subject: Food & Nutrition

Course- CC 2

Food Chemistry

Full Marks-40

Time-2.00 Hours

## Group - A

[Answer **any four** of the following]

(5×4=20)

1. Write a short note on Killiani Synthesis. Name two fat soluble vitamins and write their structures. (3+2)
2. What happens when:
  - (a) Glyceryl trilaurate reacts with Hydrogen in the presence of copper chromite?
  - (b) Glucose undergoes oxidation in the presence of bromine water? (2.5×2)
3. State the structural difference between DNA and RNA. Explain the term “Inversion of Sucrose” sugar. (2+3)
4. What do you mean by the functional properties of proteins? Discuss briefly. (5)
5. Explain: (2.5×2)
  - (a) Amino acids act as proton donors as well as proton acceptors.
  - (b) Interrelationship between Vitamin E and Selenium.
6. What do you mean by the term pH? Discuss the biological significance of pH. What is the Covalent bond? Give one example. (1+2+1+1)
7. What are the polyphenols? Write its classification. Discuss about any two of them. (1+1+3)

## Group-B

[Answer **any two** of the following]

(10×2=20)

1. Write the basic structure of flavonoids and lignans. Why is algal polysaccharide considered to be important in food industries? Write a note on Protein Hydrolysates. (2+5+3)
2. Give the coenzyme forms of thiamin and biotin. Discuss the biochemical functions of Vitamin A. Give one example of biochemical reaction where Mn acts as a co factor. What are PUFA and MUFA? Give example. (2+4+1+3)
3. Write the structural formula of Hyaluronic acid and Heparin. Discuss the stepwise reactions of sucrose with HIO<sub>4</sub>. Write the names and structures of one sulphur containing amino acid and one Heterocyclic amino acid. What are the different levels of protein structure? (2+3+2+3)
4. Explain cis-trans isomerism of fatty acids. What is liposome? Establish the structures of adenosine including its point of attachment and orientation of the base with respect to sugar unit. (3+2+5)

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