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Department of Home Science
Question Bank
B.sc Home Science (Food Science & Nutrition)

Class: SY

Subject : Advance Chemistry

Unit- I
Carbohydrates

Short Answer Question:

1. What is the difference between dextrose and glucose?
2. Is lactulose found in milk?
3. What is the difference between inulin and insulin?
4. What are the products when amylose and amylopectin (forms of starch) are hydrolysed by amylase?
5. Which carbohydrates are described as simple and which are complex?
6. Describe the structure of a monosaccharide and name the three
7. Describe the structure of polysaccharides and name the ones important in
8. What is the protein-sparing action of carbohydrate?
9. What are the health effects of sugars? What are the dietary recommendations
10. Structure and importance of maltose
11. Structure and importance of sucrose
12. Structure and importance of lactose
13. Structure and importance of cellulose
14. Structure and importance of starch
15. Structure and importance of glycogen

Long Answer Question:

1. Define Carbohydrates. Classify them with suitable examples.
2. Describe the structure and functions of Mucopolysaccharides.
3. Define polysaccharides. Classify them and write their importance.
4. Reactions Of Monosaccharides
5. Cyclic Forms Of Monosaccharides
6. Structure Of D& L Forms

Unit- II

Lipids

Short Answer Question:

1. Define Lipids.
2. Give the classification of fatty acids. Give examples.
3. Give the classification of lipids.
4. Define rancidity. What are causes of rancidity.
5. Enlist the tests used to check the purity of oils and fats.
6. Discuss the functions of phospholipids.
7. Lipoproteins
8. Prostaglandins
9. Essential fatty acids
10. Chemistry and functions of cholesterol
11. Difference Between Saturated & Unsaturated Fatty Acids
12. Saponification Value
13. Richert – Miesel Number
14. Sterols Structure

Long Answer Question:

1. Define lipids and classify them with suitable examples.
2. Classify fatty acids in various ways with suitable examples.
3. Define phospholipids. Classify them with suitable examples and state their functions.
4. 7 Dehydro - Cholesterol

Unit- III

Protein

Short Answer Question:

1. Give the functional classification of proteins.
2. Explain the alpha-helical structure of protein with examples.
3. Describe the beta pleated structure of protein with examples
4. Write a short note on the functions of albumin.
5. Write a short note on the isoelectric pH of protein and its importance.
6. Write a short note on the biologically important peptides.
7. Write a short note on nonstandard aminoacids.
8. Write a short note on plasma proteins and their functions .

Long Answer Question:

1. Explain in detail the structural organization of proteins.
2. Classify aminoacids in various ways with suitable examples.
3. Classify proteins in various ways with suitable examples.
4. Denaturation Of Protein
5. Protein & Isoelectric Precipitation

Unit- V**Nucleic Acid Structure****Short Answer Question:**

1. Specificity of enzyme.
2. Allosteric modulation.
3. Define Km and explain the effect of substrate concentration on enzyme activity.
4. Competitive and non competitive inhibitions
5. Diagnostic and therapeutic uses of enzymes.

Long Answer Question:

1. Define enzymes. Explain nomenclature and IUBMB classification with suitable examples.
2. Define enzyme inhibition. Explain in detail the different types of inhibitions with suitable examples.
3. Define isoenzymes and explain their structure, organ distribution and diagnostic importance.
4. Explain the different theories proposed for mechanism of enzyme substrate complex formation.
5. Explain factors affecting enzyme activity.

