Carbohydrates

Long and Short questions :

1. Define carbohydrate. Give its classification.
2. What are polysaccharides? Classify them.
3. Differentiate between starch and glycogen.
4. Inulin
5. Homopolysaccharides
6. Heteropolysaccharides
7. Oral glucose tolerance test
8. Mini GTT
9. Outline reactions of the citric acid cycle. Give energetics of the cycle and explain the amphibolic role of this cycle.
10. Outline pentose phosphate pathway reactions. Discuss significance of the pathway in different tissues.
11. Give outline of glycolysis. What are its regulatory steps? What is the energy yield of this pathway?
12. Define glycogenolysis. Outline reactions of this pathway.
13. What is glycogenesis? Give reactions of glycogenesis.
14. Regulation of blood glucose
15. Metabolism of fructose
16. Glycogenolysis
17. Metabolism of galactose
18. Diabetes mellitus
19. Gluconeogenesis
20. Energetics of the citric acid cycle
21. Von Gierke disease
22. Glycogenesis
23. Glycogen storage diseases
24. Oxidation of pyruvate to acetyl CoA viii. Cori cycle
25. Digestion and absorption of carbohydrates
26. Differentiate between type 1 and type 2 diabetes mellitus
27. Galactosemia
28. Lactose intolerance
29. Fructose intolerance
30. Diabetic ketoacidosis
31. Oral glucose tolerance test
32. Extended GTT
33. Intravenous GTT
34. Glycated hemoglobin
35. Hypoglycemia
36. Glucose challenge test

MULTIPLE CHOICE QUESTIONS

1) Which of the following is a nonreducing sugar?

a) Sucrose
b) Glucose
c) Maltose
d) Lactose

2) Sucrose has glucose and …….

a) Maltose
b) Glycogen
c) Fructose
d) Galactose

3) Enzyme that hydrolyzes sucrose is:

a) Invertase
b) Lactase
c) Amylase
d) Maltase

Lipids

1. What are fatty acids? Classify them. Write biological significance of polyunsaturated fatty acids.
2. Outline B-oxidation of fatty acids. How much energy is produced when a molecule of palmitic acidis oxidized to acetyl CoA?
3. Outline De novo synthesis of fatty acids. What is the source of reducing equivalents? How De nove fatty acid synthesis differs from fatty acid elongation in the mitochondria and the endoplasmi reticulum?
4. Outline cholesterol synthesis. Add a note on its relationship with atherosclerosis.
5. Classification of fatty acids
6. Compounds formed from cholesterol
7. Ketone bodies
8. Atherosclerosis
9. Sudden infant death syndrome
10. Refsum disease
11. PUFA
12. MUFA
13. Essential fatty acids
14. Lipoproteins
15. Diabetic ketoacidosis

MULTIPLE CHOICE QUESTIONS

• Linoleic acid is:

a) An omega-3 fatty acid
b) An omega-6 fatty acid
c) A saturated fatty acid
d) An omega-9 fatty acid

• Richest source of triglycerides in blood is:

a) HDL
b) LDL
c) Chylomicrons
d) VLDL

• All of the following are essential fatty acids except:

a) Linolenic acid
b) Linoleic acid
c) Arachidonic acid
d) Lysergic acid

• Which is the most essential fatty acid?

a) Linolenic acid
b) Linoleic acid
c) Oleic acid
d) Arachidonic acid