

2123

B.A./B.Sc. (General) Third Semester
Biochemistry
Paper - A: Carbohydrates and Lipid Metabolism

Time allowed: 3 Hours

Max. Marks: 45

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

x-x-x

- I. a). Comment briefly on the following:-
- i) Alcoholic fermentation
 - ii) Glycogenolysis
 - iii) Omega oxidation
 - iv) Prostacyclins (4x2)
- b). Name the cofactor of enzyme acetyl CoA carboxylase. (1)

UNIT - I

- II. a) Discuss the fructose metabolism in liver.
b) Comment on the substrate level phosphorylation during metabolism. (5,4)
- III. a) Delineate the chemical reactions for biosynthesis of pentose sugars from glu-6-ph.
b) Give the reactions of TCA cycle which generate reducing power. (5,4)

UNIT - II

- IV. a) Describe the process of gluconeogenesis.
b) What do you mean by Cori cycle. Comment briefly. (6,3)
- V. a) Describe the process of glycogenesis.
b) Give a significance on glyoxylate cycle. (6,3)

UNIT - III

- VI. a) Explain the process of β -oxidation of palmitic acid.
b) Differentiate between α - and β -oxidation of fatty acids. (6,3)
- VII. a) Describe the role of fatty acid synthase complex in biosynthesis of fatty acids.
b) Comment on the physiological significance of ketone bodies. (6,3)

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(2)

UNIT - IV

- VIII. a) Describe the biosynthesis of ether phospholipids. (2x4½)
b) Explain the biosynthesis of cerebrocides.
- IX. a) Give the reactions for biosynthesis of activated isoprene units from acetyl CoA. (5,4)
b) Delineate the reactions for biosynthesis of prostaglandins.

x-x-x