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**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. I which is compulsory and selecting one question from each Unit.

x-x-x

I. Answer the following:-

- a) Define substrate level phosphorylation.
- b) Metabolic defect in Von Gierke's Disease.
- c) Which enzyme is inhibited by fluoride ions?
- d) What is fructose intolerance?
- e) Name lipotropic factors.
- f) Activation of fatty acids for P oxidation.
- g) Role of brown adipose tissues.
- h) What is "Bad Cholesterol"?
- i) What are the functions of PUFAs? (9x1)

UNIT - I**II. Discuss:**

- a) Glucose Transporters.
- b) TCA cycle and its energetic. (4,5)

III. a) Describe the process by which galactose is converted to glucose and metabolic errors associated with this pathway.

- b) Physiological significance of the HMP pathway in different organs and generation of reducing equivalents. (6,3)

UNIT - II**IV. Discuss:**

- a) Glyoxylate pathway
- b) Glycogen storage diseases (4,5)

P.T.O.

(2)

V. Explain the following:-

- a) Glucuronic acid pathway and its metabolic significance.
- b) How is glycogen broken in the body? Explain the hormonal regulation of the pathway. (4,5)

UNIT - III

VI. Discuss:

- a) Biological action and clinical application of prostaglandins
- b) Digestion of very long chain fatty acids (6,3)

VII. a) De novo synthesis of fatty acids and its regulation.

- b) Role of various phospholipases. (5,4)

UNIT - IV

VIII. Write short notes:-

- a) Role of dietary fibers.
- b) Apolipoproteins
- c) Role of cerebroside and gangliosides (3x3)

IX. Write in detail the structure of cholesterol, its regulation and specialized products synthesized from cholesterol. (9)

X-X-X