Exam.Code:0035
Sub. Code: 0972

1128

B.Sc. (Hons.) Biotechnology
Third Semester

BIOT Sem III I.T. Biochemistry

Time allowed: 3 Hours **Max. Marks: 67**

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

x-x-x

I. Attempt the following:-

a) What is substrate level phosphorylation?

b) What is the role of feeder pathway?

c) What is the significance of glycogenolysis?

d) What is gluconeogenesis?

e) What is ATPase complex?

f) What is the role of salvage pathway for nucleotide synthesis?

g) What is the precursor for cholesterol synthesis?

h) Name the precursor amino acid for dopamine?

i) What is the role of carnitine in fatty acid breakdown?

j) What *are* transaminases? (10x1½)

UNIT – I

II. a) Discuss what is substrate level phosphorylation and give its significance.

b) Explain the structural features of ATP responsible for its high phosphoryl transfer potential. (6,7)

III. a) Discuss the role of activated carriers in metabolic pathways.

b) Explain different types of metabolic pathways. (7,6)

UNIT – II

IV. a) Discuss the different reactions in glycogen synthesis.

b) Discuss the feeder pathway for fructose. (7,6)

P.T.O.

V. a) Discuss the role of ATPase complex in oxidative phosphorylation.

b) Discuss the regulation of Kreb's cycle. (7,6)

UNIT – III

VI. a) Describe the synthesis of ketone bodies and their physiological significance.

b) Discuss the degradation of fatty acids by beta oxidation. (7,6)

VII. Discuss the synthesis of cholesterol. (13)

UNIT – IV

VIII. a) Discuss the salvage pathway for the synthesis of purines. (7,6)

b) Explain the synthesis, of bile pigments from amino acids,

IX. a) Discuss the catabolism of adenine.

b) Explain the synthesis of asparagine. (7,6)

x-x-x