Exam.Code:0907
Sub. Code: 6693

1079

B.E. (Biotechnology) Third Semester
BIO-313: Biochemistry

Time allowed: 3 Hours

Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit. Write the complete reactions with molecular structures in metabolism.*

x-x-x

I. Answer the following:-

a) What is the monomeric unit of cellulose and chitin? (1)

b) Write the structure and name of two aromatic amino acids. (2)

c) Write the structure and name of any disaccharide. (1)

d) Write the structure and biochemical role of thiamine? (1)

e) Write the name and structure of any two phospholipids. (2)

f) Write the structure and functions of folic acid. (1)

g) Write the structure of cys-lys-trp? (2)

UNIT – I

II. a) Describe in detail the pathway of glycolysis. Write the molecular structures of intermediates and the enzymes & cofactors involved.

b) How many ATP's are formed under aerobic and anaerobic conditions. (8,2)

III. a) Describe in detail the levels of architecture present in proteins with illustrations.

b) What is the basis of absorption of UV light at 260nm by the nucleic acids? (8,2)

IV. a) Describe the pathway of glycogenesis and its regulation.

b) Write the molecular structure of 5'- GTAC-3' (6,4)

UNIT – II

V. a) Describe Urea cycle with structures.

b) Write the metabolic pathway of B-oxidation of fatty acids? How many ATPs are generated from complete oxidation of palmitic acid. (5,5)

VI. a) Discuss the salvage pathway of purine biosynthesis.

b) Elaborate on Electron transport chain and ATP synthase complex. (2,8)

P.T.O.

VII. Write short notes on:-

a) Ketone bodies

b) Photosynthesis

(5,5)

x-x-x