Exam.Code:0907
Sub. Code: 33353

2076

B.E. (Bio-Technology) 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.*

x-x-x

I. Answer the following short questions:-

a) Differentiate between monosaccharides and disaccharides.

b) What is the full form of ATP?

c) Name any two essential amino acids.

d) Define glycogenolysis.

e) What is Sanger's method?

f) Define oxidative phosphorylation.

g) What are ketone bodies?

h) Name two water-soluble vitamins.

i) What are purines?

j) Define nitrogen fixation. (10x1)

UNIT - I

II. a) Describe primary, secondary, tertiary and quaternary structures of proteins.

b) Describe the methods of purification of enzymes. (5,5)

III. a) What is glycolysis? Write its steps.

b) Discuss glycogenesis and its regulation.

c) State the net ATP gain from citric acid cycle. (5,3,2)

IV. a) Describe the structure and function of lipids.

b) Explain the function and biological role of nucleic acids. (6,4)

P.T.O.

UNIT - II

V. a) Explain β-oxidation of fatty acids.

b) Discuss ketone bodies and their significance.

c) Write a note on fatty acid synthase complex. (4,2,4)

VI. a) Explain transamination and decarboxylation reactions.

b) What are the roles of Complex I, III and IV in oxidative phosphorylation? (6,4)

VII. a) Explain the biological process of photosynthesis, including the conditions required for the process.

b) Write a note on biosynthesis of deoxyribonucleotides. (5,5)

x-x-x