

2063  
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. 1 which is compulsory and selecting two questions from each Section. (write reactions with molecular structures.*

x-x-x

- Q1 a) Write the molecular structures of galactose and ribose (2)  
b) Write the structure of a non reducing disaccharide (2)  
c) Write the structures and names of two aromatic amino acids. (1)  
d) Write the structure and coenzyme forms of vitamin B2 (2)  
e) Write the molecular structure of ATGC. (2)  
f) What are ketone bodies? (1)

**SECTION A**

- Q2 a) Elaborate the levels of architecture present in the proteins.  
b) Which amino acids are responsible for absorption of UV light. (8, 2)
- Q3) a) Describe the pathway of glycolysis. Write the molecular structures of intermediates and the enzymes involved.  
b) What are the products obtained under aerobic and anaerobic conditions (8,2)
- Q4 a) Describe Watson and Crick model of DNA. Also write the three forms of DNA.  
b) Write the structures of any two phospholipids. (8,2)

**SECTION B**

- Q5 a) Describe the metabolic pathway of fatty acid oxidation. Also discuss the role of carnitine.  
b) Calculate the number of ATP's formed? (7,3)
- Q6 a) Describe the de-novo pathway of purine biosynthesis.  
b) Also discuss the salvage pathway and enzymes involved. (8,2)
- Q7 a) Describe Electron transport chain.  
b) Write the dark reactions of Photosynthesis and the main enzymes involved. (7,3)

x-x-x

