Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name : Biochemistry

Subject Code : 4SC02BIC1 **Branch: B.Sc.(Microbiology)**

Semester : 2 **Date : 12/05/2017** **Time : 02:00 To 05:00** **Marks : 70**

Instructions:

(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1 **Attempt the following questions:** **(14)**

a) Draw the cyclic structures of D-glucose. **(1)**
b) What products will be produced by the acid hydrolysis of lactose? **(1)**
c) Give examples and structure of any one essential unsaturated fatty acid. **(1)**
d) Give the structural formula of stearic acid and oleic acid. **(1)**
e) Draw the structure of plasmalogen. **(1)**
f) Give example of semi essential amino acids. **(1)**
g) Define entropy. **(1)**
h) State first law of thermodynamics. **(1)**
i) Define enzyme specificity. **(1)**
j) What are the forces that stabilize quaternary structure of protein? **(1)**
k) Which phospholipid prevents the adherence of inner surfaces of lungs? **(1)**
l) Which polysaccharide is composed of β-glycosidic bond? **(1)**
m) What are essential amino acids? **(1)**
n) What is the role of metals in enzyme action? **(1)**

Attempt any four questions from Q-2 to Q-8

Q-2 **Attempt all questions** **(14)**

a) Discuss classification of amino acids based on functional group present and polarity of R-group. **(7)**
b) Explain properties of amino acids. **(7)**

Q-3 **Attempt all questions** **(14)**

a) Discuss thermodynamics of ATP hydrolysis. **(7)**
b) Write a note on transphosphorylation. **(7)**

Q-4 **Attempt all questions** **(14)**

a) Write a note on different stereoisomers of D-glucose. **(7)**
b) Discuss the structure and functions of polysachharides. **(7)**

Q-5 **Attempt all questions** **(14)**

a) Explain different reactions associated with the chemical properties of monosaccharide. **(7)**

b) Write a note on structure and functions of phospholipids. **(7)**

Q-6 **Attempt all questions** **(14)**

a) Write an account of the various factors affecting enzyme activities. **(7)**

b) What are coenzymes? Write brief note on the role of coenzymes in enzyme action. **(7)**

Q-7 **Attempt all questions** **(14)**

a) Write a note on organization of protein structure. Give an account of the determination of tertiary structure of protein. **(7)**

b) Write a note on structure and properties of triacylglycerols. **(7)**

Q-8 **Attempt all questions** **(14)**

a) Explain Wald's visual cycle. **(7)**

b) Write a note on functions and deficiency manifestations of vitamin-B_1. **(7)**