Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2016

Subject Name: Biophysics

Subject Code: 4LS02BIT2 **Branch: B.Sc. (Biotechnology)**

Semester : 2 **Date : 17/05/2016** **Time : 10:30 To 01:30** **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:** **(1x14=14)**

a) What is anabolism?
b) What is catabolism?
c) What are autotrophs?
d) What are heterotrophs?
e) What is stroma?
f) Write full form of ETC
g) What is the site of glycolysis?
h) What is gluconeogenesis?
i) Write full form of PPP
j) Write full form of TCA
k) Write full form of PS-1 in plants.
l) What is redox reaction?
m) What is activation energy?
n) What are high energy compounds?

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

Q-2 **Write notes on-**

a Gibbs free energy **7**

b H-bond. **7**

Q-3		**Explain the following techniques with suitable diagram-**	
	a.	Briefly describe the properties of water.	**7**
	b.	What is bomb calorimeter? Explain its structure and function.	**7**
Q-4		What do you mean by membrane potential? How it is maintained? Explain it with suitable diagram.	**14**
Q-5		**Attempt all questions**	
	a.	What do you mean by endothermic and exothermic reactions? Give example of each.	**7**
	b.	Briefly explain entropy.	**7**
Q-6		**Attempt all questions**	
	a.	What is first law of thermodynamics? Explain it with suitable example.	**7**
	b.	Briefly explain the second law of thermodynamics.	**7**
Q-7		**Attempt all questions**	
	a.	What is evaporative cooling? Briefly explain its effects with suitable example.	**7**
	b.	Explain the change of density of water at different temperatures.	**7**
Q-8		**Write notes on-**	
	a.	How many joules of energy are needed to raise the temperature of an iron nail (7.0 g) from 25°C to 125°C? (The specific heat of iron is 0.45 J/°C·g.)	**7**
	b.	What do you mean by energy? Write 4 forms of energy.	(3+4)