

# C.U.SHAH UNIVERSITY

## Winter Examination-2015

**Subject Name : Biophysics**

**Subject Code : 4LS02BIT2**

**Branch :B.Sc. (Biotechnology)**

**Semester : 2 Date : 24/11/2015 Time : 10:30 To 1:30 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.

<b>Q-1</b>		<b>Give answer in one or two sentences only</b>	<b>(1x14=14)</b>
	<b>a)</b>	Synthesis of large/complex molecules from smaller/simple units.	
	<b>b)</b>	breaks down of large/complex molecules into smaller/simple units	
	<b>c)</b>	Synthesize it's own food.	
	<b>d)</b>	Do not synthesize it's own food.	
	<b>e)</b>	Fluid of chloroplast	
	<b>f)</b>	Electron Transport Chain	
	<b>g)</b>	Glucose 6 Phosphate	
	<b>h)</b>	Sugar/C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	
	<b>i)</b>	Change in energy	
	<b>j)</b>	Light/Wind/Radiation etc...	
	<b>k)</b>	Define the closed and isolated system used in thermodynamics	
	<b>l)</b>	Adinosin Tri Phosphate	
	<b>m)</b>	Tri Carboxylic Acid.	
	<b>n)</b>	Pentose Phosphate Pathway	
<b>Attempt any four questions from Q-2 to Q-8</b>			
<b>Q-2</b>	<b>a</b>	What is first law of thermodynamics? Explain it with suitable example.	<b>7</b>
	<b>b</b>	What do you mean by high energy compounds? Explain it with suitable example.	<b>7</b>
<b>Q-3</b>		<b>Write short notes on-</b>	
	<b>a.</b>	Structure and functions of ATP	<b>7</b>



	<b>b.</b>	Physical Properties of water	<b>7</b>
<b>Q-4</b>	<b>a.</b>	How Na-K pump works? Explain it with suitable diagrams.	<b>7</b>
	<b>b.</b>	Write the formation and properties of H-bond in water.	<b>7</b>
<b>Q-5</b>		<b>Briefly explain the following-</b>	
	<b>a.</b>	Entropy	<b>7</b>
	<b>b.</b>	Endothermic and exothermic reactions	<b>7</b>
<b>Q-6</b>		<b>Write short notes on-</b>	
	<b>a.</b>	TCA cycle	<b>7</b>
	<b>b.</b>	Photosynthetic pigments	<b>7</b>
<b>Q-7</b>		<b>Draw well labeled flow chart of-</b>	
	<b>a.</b>	Gluconeogenesis	<b>7</b>
	<b>b.</b>	Glycolysis	<b>7</b>
<b>Q-8</b>	<b>a.</b>	What is enthalpy? Explain the meaning of - and + sign to represent the enthalpy.	<b>7</b>
	<b>b.</b>	Describe the molecular structure and properties of water.	<b>7</b>

