



**THE OPEN UNIVERSITY OF SRI LANKA**  
**B.Sc DEGREE PROGRAMME / STAND ALONE COURSES 2006/07**  
**LEVEL 5 – CONTINUOUS ASSESSMENT TEST 2 (OBT)**

**CHU 3139 - BIO CHEMISTRY 1**

**DURATION : 1 1/2 HOURS**

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Date: 31<sup>st</sup> January 2007

Time : 3.30 p.m. – 5.00 p.m.

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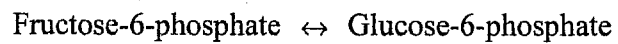
Reg. Number

Question	Marks
1	
2	
<b>Total</b>	

**Instructions to candidates:**

**This Question paper has 04 pages and 2 questions. Answer all questions in the space provided.**

1. (i). The equilibrium constant ( $K_{eq}$ ) for the following reaction at 25°C is 1.97.



Calculate the standard Gibbs free energy change ( $\Delta G^0$ ) at 25°C for above reaction.

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(ii) (a) If we adjust the concentration of fructose-6-phosphate to 2M and glucose-6-phosphate to 1.5M at 25°C, what will happen to the Gibbs free energy change ( $\Delta G$ )? Explain.

(b) Calculate the value of  $\Delta G$ .

(iv) What will happen to the above  $\Delta G^0$  value if we change the temperature from 25°C to 35°C? Explain.

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2. (i). What is meant by **oxidative phosphorylation**?

(ii) "After glycolysis, 1 mole of glucose produce 6 or 8 ATP molecules". Why this is so.

(iii) What is the net ATP equivalent from the oxidation of stearic acid ( $C_{17}H_{35}COOH$ )?

(iv) Compare this with the ATP equivalence from the oxidation of glucose.

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(v) What is the importance of urea production?