THE OPEN UNIVERSITY OF SRI LANKA
B.Sc DEGREE PROGRAMME/STAND ALONE COURSES 2009/10
LEVEL 5 – CONTINUOUS ASSESSMENT TEST 1 (NBT)

CHU3139 – BIO CHEMISTRY 1
DURATION : 1 ½ HOURS

Date: 17th September 2009 Time: 4.00-5.30pm

Reg.No: ----------

Question	Marks
1	
2	
Total	

Instructions to candidates:

This question paper has 5 pages and 2 questions. Answer all questions only in the space provided. Attached sheets will not be graded.

01.(a) Followings are the observations of different tests carried out for an unknown biological molecule isolated from a bacteria.

1. A purple ring was observed for the Molisch test.
2. A purple colour was formed with Morgon-Elson reagent.
3. No colour change was observed for the Biuret test.
4. Three spots were observed with R_{glc} values of 0.7, 0.95 and 1.0. (R_{glc} values for galactosamine =0.65, Glucosamine=0.7, galactose=0.95, glucose=1.0, manose=1.1, ribose1.6)

i. What inferences can be obtained from each observation?

ii. What type of compound/s is/are present in that isolated sample?

(b) i. What are peptedoglycans?

ii. What are the commonly found sugars linked to glycoproteins?

iii. What is meant by O-glycosyl linkages and N-glycosyl linkages? Explain.

(c) i. What do you mean by the tertiary structure of proteins?

ii. What are the forces that help to maintain the tertiary structure of proteins?

02. (a) i. What are immunoglobulins?

ii. Describe the basic structure of it.

iii. What feature determines the classes of immunoglobulins?

iv. Name different classes of immunoglobulins.

(b) i. What do you mean by renaturation of proteins?

ii. What are the methods of renaturing proteins?

(c) Consider the following information regarding three different proteins, P, Q and R. P and R have same isoelectric point but R has higher solubility than P. Q has higher isoelectric point than P but same solubility as P.

Explain how isoelectric precipitation technique can be used to separate these three different proteins.

(d) i. "The nature of the side chain is important in biological functions of proteins and peptides" Discuss this statement.

ii. Explain the basis of electrophoresis to separate a mixture of amino acids.

Reg No. : .....

Name : .....

Address : .....

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