Sample

The Open University of Sri Lanka

M.Sc. in Environmental Sciences – 2015/16

Eco Toxicology and Pollution Management- NEP2223 – Level 8

Continuous Assessment Test II (No Book Test)

Duration: onc hour

Date: 20th August 2016 **Time: 4.15 p.m. – 5.15 p.m.**

Answer all the questions

1. a. i. Define primary, secondary and tertiary structure of a protein. **(15 Marks)**

ii. What are the forces that stabilize the tertiary structure? **(10Marks)**

b. i. Write the complementary DNA strand for the single strand of DNA segment given below.

A T C G T T G C C A T G

(10 Marks)

ii. 'Mutations in proto oncogenes and tumor suppressor genes lead to cancer" Explain. **(20 Marks)**

iii. 'Acetycholine esterase (AChE) is an enzyme which is necessary for neurotransmission'. Explain the mechanism of neurotoxicity of organophosphate pesticides with regards to AChE.

(10 Marks)

c. i. Toxicity can occur by accumulating environment chemicals in different tissues in the body. Give an example for environment chemicals which can be accumulated in following tissues (Write one example for each tissue)

Kidney, teeth, hair, adipose tissue (Fat tissues) and bones **(15 Marks)**

ii 'Heavy metals can transform a cell to a cancerous cell or can undergo apoptosis'. Briefly explain or illustrate the steps involved. **(20 Marks)**

2. a. Briefly describe the major points to be considered in designing a laboratory toxicity test.

(20 marks)

b. State the important characteristics of a test organism to be considered when selecting for standard laboratory toxicity test **(15 marks)**

c. Describe the different types of laboratory toxicity test design methods **(20 marks)**

d. Briefly describe the advantages and disadvantages of the above described design methods

(45 marks)

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