

The Open University of Sri Lanka

M.Sc. in Environmental Sciences – 2015/16

Eco toxicology and Pollution Management (NEP2223) – Level 8

Continuous Assessment Test III (No Book Test)

Duration: One Hour



Date: 11<sup>th</sup> September 2016

Time: 1.00 p.m. – 2.00 p.m.

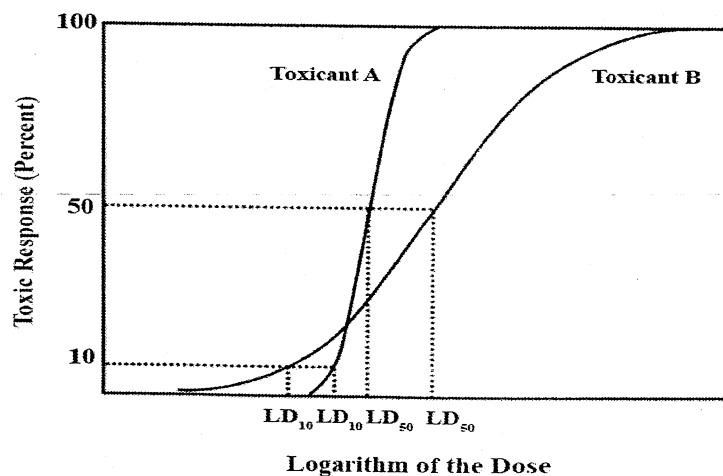
Answer all the questions.

1.a. Describe the following terms as applied in chemical toxicology.

- |                    |               |                     |
|--------------------|---------------|---------------------|
| i. Exposure        | ii. Response  | iii. Threshold dose |
| iv. Acute toxicity | v. Antagonism |                     |

(20 marks)

- b
- i. Briefly describe the important features of a Dose Response curve.
  - ii. What is meant by the term “Lethal Dose 50” ( $LD_{50}$ ) value of a substance?
  - ii. Describe the relative toxicity of toxicants A and B shown in the following Dose Response curve.



((30 marks))

c. What do you mean by the following terms?

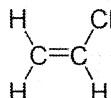
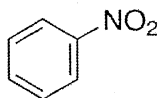
- i. Xenobiotic substances
- ii. Biotransformation of xenobiotics
- iii. Endogenous substances

(15 marks)

d. i. Discuss the Phase I reactions involved in the biotransformation of xenobiotic compounds.

ii. What does a phase I reaction do to a toxicant?

iii. Write down the metabolites that can be formed when the following xenobiotic compounds undergo Phase I reaction.



(35 marks)

2 .a. Describe the health hazards associated with any **three (3)** of the following occupations.

- i. Hospital health care worker
- ii. Tea plantation worker
- iii. Spray painter
- iv. Municipal solid waste labourer

(60 marks)

b. For **one** of the above occupations you have selected in question 2a, discuss the preventive measures for the hazards you have described.

(40 marks)