



UNIVERSITY OF SWAZILAND

Faculty of Health Sciences

Department of Environmental Health Science

July 2014 Supplementary Examination

Title of paper: INTRODUCTION TO TOXICOLOGY II

Course code: EHS 561

Time allowed: 2 HOURS

Marks allocation: 100 Marks

Instructions:

- 1) QUESTION 1 IS COMPULSORY**
- 2) Answer ANY OTHER THREE (3) questions**
- 3) Each question is weighted 25 marks**
- 4) Write neatly and clearly**
- 5) Begin each question in a separate sheet of paper**
- 6) Numbering within a chosen question should be in a sequential order**

This paper is not to be opened until the invigilator has granted permission

QUESTION 1

- a) Write short notes on the vulnerability of the blood-testis barrier to toxicological insult (5)
- b) Define the following terms (6)
- Oncosis
 - Autophagy
 - Pyroptosis
- c) Write the best meaning of these terms as they relate to hepatotoxicity, only write the number and the corresponding meaning (7)

1. Hypersensitivity	
2.	Chronic fibrosis, often due to alcohol
3. Hepatic cancer	
4.	Backup of bile salts into liver cells
5. Hepatic necrosis	
6.	Inflammation of the liver
7. Steatosis	

- c) Contrast between these 2 terms as they relate to toxicity, hormesis and Mithridatism (7)

QUESTION 2

- a) How does the body rid itself of metabolites? (6)
- b) The hepatic system is more vulnerable to toxicants than the other systems of the body. Support this submission (10)
- c) What are biomarkers used for (4)
- d) What do biomarkers of health effect signal (5)

QUESTION 3

- a) Biomarkers are not just picked at random if one wants to carry out an investigation, name the 6 criteria that must be considered in choosing them (6)
- b) Different media is used in determining different matters of interest, what is the 5 media used in biomarkers (5)
- c) Biological markers are said to be biologically relevant, what is the connotation of this statement? (5)
- d) Reproductive toxic effects may manifest in different forms in humans. Debate this statement and support it with relevant examples (7)
- e) Define ocular toxicity (2)

QUESTION 4

- a) Schematically show the movement of a xenobiotic from absorption through to elimination. **DO NOT DISCUSS!** (13)
- b) You have been asked by the Matsapha Town Board to make a presentation on DDT as an environmental health toxicant, briefly discuss the major points to cover and their implication to the biota (12)

QUESTION 5

- a) Hepatotoxicity is toxicity to 3 certain organs of the body, name them (3)
- b) Define the different types of neurotoxicity (4)
- c) Name 4 carcinogenic chemicals (4)
- d) List the 3 steps in pathogenesis of neoplasma & 3 steps in initiation (6)
- e) What features of the CNS make it to be more vulnerable to toxicant insults? (7)
- f) DDT normally shows pathological changes in 2 distinct parts in the human body, name one of it? (1)