



UNIVERSITY OF SWAZILAND

Faculty of Health Sciences

Department of Environmental Health Science

JULY 2015 SUPPLEMENTARY EXAMINATION

Title of paper: INTRODUCTION TO TOXICOLOGY II

Course code: EHS 561

Time allowed: 2 HOURS

Marks allocation: 100 Marks

Instructions:

- 1. Answer ANY OTHER FOUR (4) questions**
- 2. Each question is weighted 25 marks**
- 3. Write neatly and clearly**
- 4. Begin each question in a separate sheet of paper**
- 5. 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) With relevant examples discuss how blood and cardiovascular toxicity occur (10)
- b) What is meant by apoptosis? In your discussion indicate the processes that take place during apoptosis? (7)
- c) Describe what signal transduction is and how the body prepares itself in the face of adversity? (8)

QUESTION 2

- a) List the maternal factors that have a negative toxicological impact to the growing embryo (16)
- b) When do scientists apply Uncertainty Factors? (5)
- c) It is said that the ecosystem is able to rebound from a disruptive agent. This however is dependent on two determinants, what are they? (4)

QUESTION 3

- a) Write short notes on the changes that can be seen in the nucleus that may be attributed to necrosis (8)
- b) What is placental toxicity and how will it manifest itself? (12)
- c) Define heavy metal toxicity and describe its signs and symptoms? (5)

QUESTION 4

- a) Lead is known to be both abortifacient and is able to cause teratospermias. Unpack this statement (6)
- b) Despite heavy metal toxicity to humans, there are heavy metals that are beneficial to the human population, name them (5)
- c) With regards to hepatic clearance, what is the extraction ratio? (4)
- d) Name the 3 main factors that affect the absorption within the various sites of the Gastro Intestinal Tract (6)
- e) What features make the intestine to be more favorable for absorption to take place (4)

QUESTION 5

- a) If you were appointed as a regulatory toxicologist by the Smears Industry, what would your overall responsibility involve? (10)**
- b) DDT as an environmental health toxicant normally depicts specific pathological changes in the human body. Name these body parts (4)**
- c) Name the three variables in the initiation of carcinogenesis. (6)**
- d) What is caseation necrosis? (5)**