



UNIVERSITY OF SWAZILAND

Faculty of Health Science

Department of Environmental Health Sciences

Main Examination 2011

Title of paper: INTRODUCTION TO TOXICOLOGY 11

Course code: EHS 561

Time allowed: 2 HOURS

Marks allocation: 100 Marks

Instructions:

- 1) Answer ANY 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**

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

QUESTION 1

- a) Discuss with relevant examples how blood and cardiovascular toxicity occur (10)**
- b) What do you understand by apoptosis, in your discussion include the processes that it undergoes? (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, and 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 metal toxicity and what could be its signs and symptoms? (5)**

QUESTION 4

- a) Lead is known to be both abortifacient and is able to cause teratospemias. Unpack this statement (6)**
- b) In metal toxicity, 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 Patookers 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) Initiation in carcinogenesis is dependent on 3 variables, what are they? (6)**
- d) What is caseation necrosis? (5)**