



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences
Department of Environmental Health Science

JULY 2013 Supplementary Examination

Title of paper: INTRODUCTION TO TOXICOLOGY II

Course code: EHS 561

Time allowed: 2 HOURS

Marks allocated: 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**
- 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) Discuss the main function of the endocrine system regarding reproductive toxicity? (5)
- b) Fat necrosis occurs in two forms, name and discuss them (4)
- c) Name the six types of necrosis and briefly discuss them in not more than four lines each (12)
- d) Write short notes on the following (4)
 - i. Steatosis
 - ii. Intrahepatic cholestasis

QUESTION 2

- a) Compare and contrast between coagulative and liquifactive necrosis (8)
- b) The severity of a teratogen is dependent on three variables, name them (3)
- c) Write short notes on absorption in the stomach (5)
- d) What is the sensitive period of gestation when xenobiotics can effect their lethal insult called. This happens around what range of days? (3)
- e) Define Volume of Distribution of a toxicant in the body (3)
- f) How does biliary excretion occur? (3)

QUESTION 3

- a) Name the variable(s) that may alter plasma –protein concentrations (6)
- b) The length of time toxic substances remain bound to the plasma - protein is dependent on 2 variables. Name them (4).
- c) DDT as an environmental health toxicant normally depicts specific pathological changes in the human body, name these body parts (4)
- d) What could be the ultra-structural changes that might be observed in necrosis? (6)
- e) The fetal period in developmental toxicity is critical for susceptibility. Do you agree or disagree with this statement and why? (5)

QUESTION 4

- a) Define a signal transduction cascade (4)
- b) Discuss the variable(s) that may alter plasma –protein concentrations (3)
- c) Outline the characteristics of malignant progression in carcinogenesis (4)
- d) Write briefly as to how xenobiotics are excreted in the following (8)
 - i. Feaces
 - ii. Saliva
- e) Differentiate between these three words: mutagenesis, mutation and mutagen (6)

QUESTION 5

- a) List 5 likely signs of toxicity to the central nervous system (5)
- b) Write notes on the different manifestations of hepatotoxicity (20)