

**UNIVERSITY OF SWAZILAND**  
**FACULTY OF HEALTH SCIENCES**  
**FINAL EXAMINATION PAPER - SECOND SEMESTER – 2010/2011**

TITLE OF PAPER : ENVIRONMENTAL ASSESSMENT  
COURSE CODE : EHS 551  
TIME : 3 HOURS  
MARKS : 100

**INSTRUCTIONS**

1. ALL FOUR QUESTIONS ARE COMPULSORY.
2. EACH QUESTION IS 25 MARKS.
3. NO FORM OF PAPER SHOULD BE BROUGHT INTO NOR TAKEN OUT OF THE EXAMINATION ROOM.
4. BEGIN YOUR ANSWERS TO EACH QUESTION ON A SEPARATE SHEET OF PAPER.
5. NUMBER ALL ANSWER SHEETS IN ACCORDANCE WITH THE FLOW OF YOUR ANSWERS.
6. WRITE ELIGIBLY; MARKS WILL NOT BE AWARDED WHERE HANDWRITING IS NOT POSSIBLE TO READ.
7. USE OF PROPER ENGLISH LANGUAGE GRAMMAR IS ESSENTIAL; POOR GRAMMAR SHALL RESULT IN LOSS OF MARKS.

### QUESTION 1

In dealing with ever growing volumes of municipal solid waste, Swaziland is still using one of the traditional output approaches, which is said to offer a wide range of benefits such as low operating costs, little odour, etc. Besides such advantages however, this approach definitely poses significant social and environmental challenges. Discuss the challenges.

(25)

### QUESTION 2

Costa Rica, a country located in South America, has a great market for fruits in North American cities and Canada. To send fresh healthy fruits, it uses high levels of pesticides in controlling pests in the fields. A recent study by the Canadian Environmental Authority has found that people who live in the remote arctic villages have the highest levels of dichlorodiphenyltrichloroethane (DDT) in their bodies, compared to the rest of the population of Canada.

- a) How does DDT find its way into bodies of these people?
- b) What are some of the impacts of DDT in human bodies?

(25)

### QUESTION 3

For the past centuries, over 90% of the big industries in Matsapha have been depending on coal for their electricity and other industrial processes requiring high heat energy. A recently enacted law requires every coal-burning company to shift to renewable energy sources such as hydroelectricity, solar power, etc. As an environmental officer based in one of the major coal-burning companies in Matsapha, you are convincing the

SEA that there is no need to shift because you have a choice of at least four techniques to control the level of your emissions.

- a) Which are these techniques and how do they operate?
- b) What are the possible impacts that your company could have had in the nearby forests and soils before adopting the above emission control techniques?

(25)

#### QUESTION 4

By 2015, there will be no more space to dump waste at the Mpolonjeni Landfill, if the current levels of waste are not reduced. Construction of a new state of the art sanitary landfill costs no less than E25 million, and looking at the current financial crisis, it may not be possible to secure this funding. As the head of environmental health services responsible for reducing the volumes of waste, your only option is to adopt throughput approaches (recycling, composting, recovery, reusing). For each of these approaches, explain how they work, state two advantages and two disadvantages.

(25)

