



**UNIVERSITY OF SWAZILAND**  
Faculty of Health Science

Department of Environmental Health  
Sciences

Final Examination 2009

Title of paper: AIR SAMPLING AND ANALYSIS

Course code: EHS 564

Time allowed: 2 hours

Marks allocation: 100 Marks

Instructions:

- 1) Read the questions and instructions carefully
- 2) Answer ANY FOUR (4) questions
- 3) Each question is weighted 25 marks
- 4) Write neatly and clearly
- 5) Begin each question on a separate sheet of paper

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

## **AIR SAMPLING AND ANALYSIS**

**EHS: 564 - FINAL EXAM**

**DECEMBER 2009**

### **QUESTION 1**

- a) **What are air pollution assumptions? 4**
- b) **Discuss the errors in respirable dust sampling. 5**
- c) **How can errors be eliminated in air sampling 6?**
- d) **Mention 8 health effects associated with carbon monoxide. 16**

### **QUESTION 2**

- a) **How can individuals contribute to clean air? (12)**
- b) **As an OHS officer you are asked to carry out air sampling around an area with a lot of vegetation. What are the key effects that you will be looking for on trees for instance? (12)**
- c) **What is a primary pollutant? (1)**

### **QUESTION 3**

- a) **Discuss the 3 types that use passive sampling. (9)**
- b) **List the 3 types of filters used in direct reading instrument method. (6)**
- c) **List 5 health effects caused by pollution in beach water. (5)**

### **QUESTION 4**

- a) **Write short notes on the following. (15)**
  - **Area sampling**
  - **Personal sampling**
  - **Integrated sampling**
- b) **What are the major sources of odor in a local authority that you might sample to determine the nature of the air quality? (6)**
- c) **What do you understand by LOD as pertaining to air contaminants? (3)**
- d) **What is the LOD for SO<sub>2</sub>? (1)**

**QUESTION 5**

**Discuss how Air Sampling for hazardous dust and welding fumes is carried out using the diagram below. (25)**

Typical Air Sampling Equipment and Air Sampling Set-Up

