UNIVERSITY OF SWAZILAND

FACULTY OF HEALTH SCIENCE

DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCES

DECEMBER MAIN EXAMINATION 2013

Title of paper: INTRODUCTION TO AIR POLLUTION

Course code: EHS 314

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 on a separate sheet of paper

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

QUESTION 1

a) **Discuss as to how have humans contributed to the greenhouse effect phenomena that is threatening both the human and animal population (10)**
b) **Explain what you understand by the following (15)**
    i. **Ozone depletion**
    ii. **The Greenhouse gases**
    iii. **Global warming**

QUESTION 2

a) **Write short notes on the following (10)**
    i. **Visibility**
    ii. **Emission inventory**
    iii. **Ozone precursors**
    iv. **Volatility**
    v. **Emission standard**
b) **The United Nations International Intergovernmental Panel on Climate Change reports that 11 of the past 12 years have been among the dozen warmest since 1850. Support this statement with basic facts that can be backed by climate studies (8)**
c) **Define the Polluter Pays Principle (5)**
d) **What are the weather characteristics that play a role in the formation and disappearance of air pollution? (2)**

QUESTION 3

a) **What are the fundamental differences between the Montreal and Kyoto Protocol and the Copenhagen Summit? (9)**
b) **Discuss 8 effects of climate change (8)**
c) **Explain factors that determine urban air quality characteristics (8)**

QUESTION 4

a) **Name the 5 key principles of the Kyoto Protocol (5)**
b) **What is the basic principle of air pollution monitoring? (4)**
c) **Air pollutants transportation depends on 2 main factors, which ones are those? (4)**
d) **Define volatile organic compound and give three (3) examples of such (4)**

e) **Make a submission what you understand by meaningful involvement as it relates to environmental justice (8)**

QUESTION 5

a) **The Gaussian Dispersion Model is a product of 3 terms, what are they (6)**
b) **What are the lessons learnt from the 3 air pollution episodes studied in class (10)**
c) **In the Donora pollution episode, it is said that there was an air inversion that hovered over this small town, just explain the air inversion (9)**