



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

DIPLOMA IN ENVIRONMENTAL HEALTH

FINAL EXAMINATION PAPER 2007/2008

TITLE OF PAPER	:	INTRODUCTION TO AIR POLLUTION
COURSE CODE	:	EHS 314
DURATION	:	2 HOURS
MARKS	:	100
INSTRUCTIONS	:	READ THE QUESTIONS & INSTRUCTIONS CAREFULLY
	:	ANSWER ANY FOUR (4) QUESTIONS
	:	EACH QUESTION CARRIES 25 MARKS
	:	WRITE NEATLY & CLEARLY
	:	NO PAPER SHOULD BE BROUGHT INTO NOR OUT OF THE EXAMINATION ROOM
	:	BEGIN EACH QUESTION ON A SEPARATE SHEET OF PAPER

DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS GRANTED BY THE INVIGILATOR

QUESTION 1.

- a) Define the following:-
- i) Air pollutants (4 marks)
 - ii) Particulate matter (4 marks)
 - iii) Fumes (4 marks)
 - iv) Grit (4 marks)
 - v) CFCs (4 marks)

Total (20 marks)

- b) What are the differences between primary and secondary pollutants
(5 marks).

QUESTION 2.

- a) With regard to air pollution, define the following:-
- i) Mixing depth (5 marks)
 - ii) Atmospheric inversion (5 marks)
 - iii) Radiation inversion (5 marks)
 - iv) Subsidence inversion. (5 marks)

Total (20 marks)

- b) What is acid rain? Why is it of concern in air pollution control?

Total (5 marks)

QUESTION 3.

- a) Discuss the impacts of global warming
(10 marks)
- b) What are the objectives of air pollution monitoring?
(10 marks)
- c) What are the differences between PM2.5 and PM10.
(5 marks)

Question 4

- i) The physical conditions necessary for good combustion are often referred to as the three (3) T's (Time, Temperature, and Turbulence). Explain fully the significance of each of these factors by reference to a particle of coal carried into the combustion zone. (15 marks)
- ii) What are the common sources of indoor air pollution? (5 Marks)
- iii) What are the symptoms of a "Sick Building" syndrome (5 Marks)

Question 5

- i) Using CFCs as an example, give a detailed description of the reactions that make and break the ozone layer (15 Marks)
- ii) Discuss the sources and environmental implications of sulphur SO_2 and NO_x (10 Marks)