

UNIVERSITY OF SWAZILAND

Faculty of Health Sciences

DEGREE IN ENVIRONMENTAL HEALTH

FINAL EXAMINATION PAPER 2014

TITLE OF PAPER	: Occupational Health and Safety
COURSE CODE	: EHM 211
DURATION	: 2 HOURS
MARKS	: 100 MARKS
INSTRUCTIONS	: READ THE QUESTIONS AND INSTRUCTIONS CAREFULLY
	: ANSWER FOUR (4) QUESTIONS
	: EACH CARRIES 25 MARKS
	: WRITE NEATLY AND 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) Write short notes on the following terms that are used in occupational health and safety

- i) Immediately Dangerous to Life or Health (IDLH)
- ii) Permissible Exposure Level (PEL)
- iii) Recommended Exposure Level (REL)
- iv) What is a material safety data sheet? (MSDS)

(3 marks each – Total = 12 marks)

B) List any nine (9) items that may be listed in a Material safety data sheet (9 marks)

C) List environmental factors or stressors that can cause sickness, impaired health or significant discomfort in workers (4 marks)

Question 2

Asbestos is the most widely discussed hazardous substance. Briefly discuss the following regarding asbestos

- i) The health hazards of asbestos (12 marks)
- ii) Remedial treatment of asbestos containing materials (4marks)
- iii) When removing asbestos what protection would you expect? (9 marks)

Question 3

Briefly discuss the following regarding noise control

- i) Sound Pressure level (4 marks)
- ii) Sound Power Level (4 marks)
- iii) The decibel (3 marks)
- iv) Acoustic impedance (3 marks)
- v) Five sound sources generate the following noise levels in dB(A) to a listener's ear: 92, 88, 86, 93, 81, dB(A). What is the total noise level (to the nearest dB(A)) when they occur at the same time) (6 marks)
- vi) List two physiological and three psychological effects of noise (5 marks)

Question 4.

- i) What is meant by occupational health (5 marks)
- ii) How would you carry out a occupational health and safety evaluation for a secondary lead smelter factory of 15-20 employees. (10 Marks)
- iii) Calculate the Threshold Limit Value (TLV) for the following independent effects;
 - Air containing 400ppm of acetone (TLV, 750ppm), 150ppm of sec-butyl acetate (TLV, 200ppm) and 100ppm of methyl ethyl ketone (TLV, 200ppm). Give a brief comment on the resultant TLV. (5 marks).

- iv) Critically analyze the hazards that may be inflicted by a moving abrasive wheel. (5 marks)

Question 5

- i) Who is known of the father of modern occupational medicine? Why? (3 marks)
- ii) The Threshold Limit Value (TLV) of Parathion has a S notation What does this mean? (3 marks)
- iii) What are the components of a workplace health and safety management? (11 marks)
- iv) Give an analysis of the occupational health and safety hazards that may be encountered by grass cutting staff that have been engaged by the municipality to clear its road reserves and parks (8 marks)