



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

DEGREE IN ENVIRONMENTAL HEALTH

FINAL EXAMINATION PAPER 2016

TITLE OF PAPER : FUNDAMENTALS OF INDUSTRIAL HYGIENE

COURSE CODE : EHM 428

DURATION : 2 HOURS

MARKS : 100

INSTRUCTIONS :

- READ THE QUESTIONS & INSTRUCTIONS CAREFULLY**
- QUESTION ONE IS COMPULSORY**
- ANSWER ANY THREE OTHER QUESTIONS**
- EACH QUESTION CARRIES 25 MARKS**
- WRITE NEATLY AND CLEARLY**
- NO PAPER SHOULD BE BROUGHT INTO 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 (20 marks).
- i. Exposure
 - ii. Skin notation
 - iii. Sensitizer notation
 - iv. Excursion
- b) What were the two purposes of the charcoal impregnated mask that were introduced by John Stenhouse? (4 marks)
- c) Define Biological Exposure Indices (1 marks)

QUESTION 2

- a) When and for what purpose were exposure limits set in the United Kingdom? (6 marks)
- b) Haldane undertook work on toxicity of carbon monoxide by exposing rats and mice even himself. What were these results from these experiments used for? (8 marks)
- c) Briefly write about the functions of the Health of Munitions Workers' Committee (8 marks)
- d) Outline the primary objective of a comprehensive exposure assessment (3 marks)

QUESTION 3

- a) In not more than 3 lines each, outline the typical time limits that are used in industrial hygiene (9 marks)
- b) Indicate what the following standards of the Occupational Safety and Health Act, 1970 would address in the workplace (4 marks)
- i. Part 1910
 - ii. Part 1915
 - iii. Part 1926
 - iv. Part 1928

- c) What the following acronyms stand for and indicate what phenomena they represent (4 marks)
- i. AL
 - ii. STEL
- d) Occupation Safety and Health Administration does not classify carcinogenic material yet there is have information on these materials. How does it get information on carcinogenic material then? (4 marks)
- e) Why is it advisable to involve workers if one is carrying out a hazard survey? (4marks)

QUESTION 4

- a) A novice in hazard recognition can find it very difficult to recognize hazards. Outline the expertise that one needs to be able to recognize hazards (6 marks)
- b) If one wants detailed information regarding a hazardous substance, what information would be contained in that particular substance inventory? (12 marks)
- c) Define control as it relates to industrial hygiene giving relevant examples (7 marks)

QUESTION 5

- a) Schematically show a Tyndal Beam Light Effect with relevant labels and indicate its limitations? (9 marks)
- b) List the type of health hazards that could be associated with the following in the workplace;
- i. Ergonomic factors (3 marks)
 - ii. Psychosocial factors (3 marks)
 - iii. Physical factors (6 marks)
- c) What is the purpose of area sampling? (4 marks)