



UNIVERSITY OF ESWATINI
Faculty of Health Sciences
Department of Environmental Health Science

BACHELOR OF SCIENCE IN ENVIRONMENTAL
MANAGEMENT AND OCCUPATIONAL HEALTH

MAY 2019 FINAL EXAMINATION

TITLE OF PAPER : FUNDAMENTALS OF INDUSTRIAL HYGIENE
COURSE CODE : EHS 436
DURATION : 2 HOURS
MARKS : 100

INSTRUCTIONS

1. Read the questions & instructions carefully
2. Then answer ANY FOUR (4) questions
3. Each question is weighted 25 marks
4. Write neatly and clearly
5. Numbering within a chosen question should be in a sequential order
6. 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) How is a positive fit test carried out and what are its limitations?
(8)
- b) SCBAs have these features in them, PASS and ADSU. What they for? (3)
- c) Briefly discuss the issues that should be taken into account under health surveillance medical confidentiality (10)
- d) What are the fundamental differences between the qualitative and quantitative fit tests? (4)

QUESTIO 2

- a) Chronologically describe how a quantitative fit test is carried out, EXCLUDING the exercises that are supposed to be carried out by the subject (10)
- b) Compare and contrast between Self Contained Breathing Apparatus and Supplied Air Ventilators (15)

QUESTION 3

- a) What is the time lapse that can force fire rescuer's to manually rescue one of their own? (4)
- b) List the agricultural situations that would require SAR. (3)
- c) Name 5 types of quarter mask and state what they indicate. (5)
- d) Define filter efficiency. (1)
- e) What do the following letters used in respirators labelling mean?
N, R, P. (6)
- f) What would be the three (3) components that one will need in order to quantify exposure to a pollutant? (6)

QUESTION 4

- a) Outline the current guidance to what workers may be exposed to under excursions. (6)
- b) What type of work environments would be depicted by the following? (6)
- i. Oxygen enriched
 - ii. Oxygen deficient
 - iii. Confined space
- c) What is the function of the following? (6)
- i. Escape only respirator
 - ii. Positive pressure respirator
 - iii. User seal check
- d) Define a fit test. (3)
- e) List the possible sources of health hazards produced by heat in the workplace. (4)

QUESTION 5

- a) Outline the responsibility of an OHS officer regarding an IDL atmosphere (10)
- b) Discuss with relevant examples what needs to be considered in selecting air cleaning devices (10)
- c) Write short notes on exposure (5)