

UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

Department of Environmental Health Science

Final Examination
May 2015

Title of paper: Industrial Hygiene Aspect of Plant Operation II

Course code: EHS 563

Time allowed: 2 hours

Marks allocation: 100 Marks

Instructions:

- 1) Read the questions and instructions carefully
- 2) Answer any 4 questions
- 3) Each question is weighted 25 marks
- 4) Write neatly and clearly

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

Answer any 4 questions

Question 1

In relation to light explain the following:

- a) Light. [5 Marks]
- b) Types of glare and the effects to the worker. [8 Marks]
- c) Luminance and illuminance. [4 Marks]
- d) As a safety officer outline the factors to consider when specifying the lighting system in a factory for the safety and visual comfort of the workers. [8 Marks]

Question 2

In relation to electricity

- a) What is electricity? [1 Mark]
- b) Define the process of completing the electricity circuit (from power plant to the house). [14 Marks]
- c) Define insulator and conductor [4 Marks]
- d) Explain the hazards associated with electricity [6 Marks]

Question 3

- a) What is radiation? [3 Marks]
- b) What is the difference between ionizing and non-ionizing radiation? [6 Marks]
- c) Choose any two ionizing radiation particles or waves. Explain how they are harmful to human health. [16 Marks]

Question 4

- a) What is a hearing conservation Programme (HCP)? [4 Marks]
- b) Explain the 7 elements of the HCP [21 Marks]

Question 5

Taking the case of Mbabane campus (hostels):

- (a) What type(s) of fire can the activities at this campus result into? [3 Marks]
- (b) Explain how each type mention in (a) above can be controlled and prevented. [12 Marks]
- (c) Outline reactive measures that ought to be in place in order to react to a fire occurrence in the campus [10 Marks]