



# **UNIVERSITY OF SWAZILAND**

**Faculty of Health Science**

**Department of Environmental Health Sciences**

**Final Examination 2009**

**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 Four 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 four (4) questions**

**Question 1**

In relation to light, explain the following:

- a) Light [5 Marks]
- b) Types of glare and the effects it has on the worker [6 Marks]
- c) Luminance and its measurement unit [2 Marks]
- d) Illuminance and its measurement unit [2 Marks]
- e) How many factors would you consider when specifying the lighting system in the factory for the safety and visual comfort of the workers. [10 Marks]

**Question 2**

In bank X the purchasing officer out of ignorance bought all types of fire extinguishers and positioned them in most of the building walls. As a safety officer you notice that some extinguishers were not needed because of the type of fires the bank can have and some were not placed in good positions.

Alert management on the:

- Types of fires the bank can have
- Types of extinguishers that the bank ought to have and
- Reactive measures to be in place in case of fire outbreak in the bank

[25 Marks]

**Question 3**

- a) In relation to radiation, explain the meaning of the following:

- a. Shielding
- b. Film badge
- c. Sievert
- d. Non-stochastic effects

[16 Marks]

- b) What measure would you recommend to reduce the exposure of a worker from radiation

[9 Marks]

**Question 4**

- a) Define electricity and the process of completing the circuit [12 Marks]
- b) Define insulator and conductor, give an example for each [4 Marks]
- c) Explain the health and safety hazards of electricity [9 Marks]

**Question 5**

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