



UNIVERSITY OF SWAZILAND
Faculty of Health Science

Department of Environmental Health Sciences
Final Examination
May 2010

Title of paper: Industrial Hygiene Aspects 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 ALL 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 all questions

Question 1

- a) Define the two different types of vibration and give examples [4 Marks]
- b) Give four (4) factors that contribute to the increase of the adverse health effects of vibration? [8 Marks]
- c) Outline the adverse effects of vibration to the **health** and **safety** of the worker [10 Marks]
- d) Outline possible vibration exposure control measures. [3 Marks]

Question 2

- a) Define light [2 Marks]
- b) Outline the types of glare [3 Marks]
- c) As a safety officer how can you ensure that the lighting in the office environment is **safe** and free from **health** hazards. [10 Marks]
- d) Outline the effects of light (**low** and **high** intensity) to the human eye. [10 Marks]

Question 3

- a) What is Fire? [3 Marks]
- b) Give 3 major strategies of extinguishing fire. [6 Marks]
- c) Outline 4 types of extinguishers [8 Marks]
- d) Discuss the Reactive measures to be taken in case of a fire outbreak [8 Marks]

Question 4

- a) In relation to thermal environment explain **three** of the following:
➤ Psychrometry
➤ Mean radiant temperature
➤ Temperature
➤ Thermometer
➤ Humidity [9 Marks]
- b) Explain the factors, which influence the thermal comfort of workers, and how the body tries to cope with cold working conditions. [8 Marks]
- c) For heat to be exchanged between the inside and outside of the body there should be a normal heat transfer mechanism.
- State the four (4) transfer mechanism that should take place. [8 Marks]