UNIVERSITY OF SWAZILAND

Faculty of Health Science

Department of Environmental Health Sciences

Final Examination 2006

Title of paper: Industrial hygiene aspect of plant operation

Course code: EHS 531

Time allowed: 3 hours

Marks allocation: 100 Marks

Instructions:

1) Read the questions and instructions carefully
2) Answer Five questions
3) Each question is weighted 20 marks
4) Write neatly and clearly

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

Answer any 5 questions

Question 1

Write notes on the following terms

a) Cost of an injury/illness to the employee and the employer [10 Marks]

b) Health and safety effects of noise at the workplace [4 Marks]

c) Ionizing and non-ionizing radiation [6 Marks]

Question 2

Fire can be a result of a number of things.

a) Explain the 4 types/classes of fires [8 Marks]

b) Explain the different methods of extinguishing fire and state what purpose that method serves when extinguishing [12 Marks]

Question 3

The construction industry is increasing at an alarming rate in the Kingdom. Construction poses numerous hazards to the worker and the environment.

a) Explain 5 physical hazards that employees are exposed to [10 Marks]

b) Explain 3 health hazards that employees are exposed to [6 Marks]

c) State 4 steps management can put in place in order to prevent injuries and illnesses [4 Marks]

Question 4

Electricity has to complete a circuit for it to have an effect on appliances and human users

a) State how electricity flows up to the sockets/plugs [8 Marks]

b) State the adverse effects of electricity to a human being [6 Marks]

c) Explain how an employee working on live wires prevent injuries [6 Marks]

Question 5

High and low temperatures have adverse effects to a human being. At the workplace, employees are exposed to high temperatures caused by heat emitted by plants and machinery; they are also exposed to low temperatures due to cold environments required for storing products.

a) Give the 4 avenues/mechanism of heat exchange [4 Marks]

b) What are the 2 adverse effects of high temperatures and how can they be controlled [8 Marks]

c) What are the 2 adverse effects of low temperatures and how can they be controlled [8 Marks]

Question 6

In relation to light explain the following:

a) Define light and its measurements [6 Marks]

b) Give and explain 2 adverse effects on the health of the worker [6 Marks]

c) Using 2 examples of workstations, explain how the layout should be designed to prevent light effects [8 Marks]