

# UNIVERSITY OF SWAZILAND

Faculty of Health Sciences

Department of Environmental Health Science

December 2018 Examination

Title of paper: Principles of Ergonomics

Course code: EHS415

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

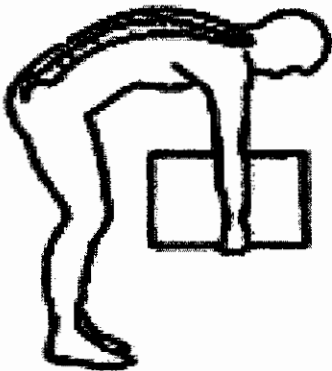
**Question 1**

- a) Occupational health by definition is the promotion and maintenance to the highest degree of physical, mental and social well being of all workers. Explain how the worker's health can be affected physically, mentally and social wise.

[15 Marks]

- b) What is the function of an Employee Assistance Programme, give examples.

[10 Marks]

**Question 2**

Manual material handling tasks are noted as major ergonomic risk factors. The worker shown on the left picture was lifting a 20kg solid object from the floor which he cannot bring up to the centre of his trunk. The object is carried to a storage place which is 10 meters away.

- a) Given this scenario, fully analyze the posture of this worker and state what are the possible adverse health and safety effects associated with such practice.

[16 Marks]

- b) Discuss how as a safety officer you would ensure generally how risks of injuries when carrying and handling loads in the workplace can be reduced.

[9 Marks]

**Question 3**

Seating workstation can pose a danger to the health of a worker.



(i)



(ii)

- a) Analyze each workstation above, state the risks to the worker's health. [10 Marks]
- b) What measures can be taken to improve a computer workstation. [15 Marks]

**Question 4**

There are ergonomic risks factors inherent in the worker, discuss five (5) of these risk factors with relevant examples.

[25 Marks]

**Question 5**

- a) Alcohol consumption affects different parts of the body. Discuss five (5) areas that are adversely affected by high consumption of alcohol. [10 Marks]
- b) Tobacco smoking affects the health of the worker in different ways. Discuss five (5) areas of the body that are adversely affected by smoking. [10 Marks]
- c) How is the high consumption of alcohol and high dependence on smoking affect the work performance? [5 Marks]