

UNIVERSITY OF SWAZILAND

Faculty of Health Sciences

Department of Environmental Health Science

December 2016 Examination

Title of paper: Principles of Ergonomics

Course code: EHM420

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

Risk factors for back pain can either be controlled or non- controlled. Discuss two (2) factors that can be controlled and three (3) factors that cannot be controlled.

[25 Marks]

Question 2

Discuss how an ergonomic sitting workstation should be like, that is, the chair, the working surface and the relation of the chair and the working surface.

[25 Marks]

Question 3

- a) Ergonomics is the science that aims to learn about human abilities and limitations and then apply that knowledge to improve people's interactions with products/systems/environment.

What does this definition imply? Give 1 example in each analysis. [10 Marks]

- b) It is said that ergonomic risk factors can be inherent in the worker, in the task and in the environment.

Discuss what this mean? Give examples in your analysis. [15 Marks]

Question 4

- a) Stress arises when the demands of the job and the working environment of a worker exceeds his capacity to meet them. This affects the worker and the company too.

Discuss how stress affects the worker and in turn how it affects the company. [20 marks]

- b) As a health and safety officer, what advice would you give the worker to help him/her cope with stress? [5 marks]

Question 5

- a) Name and explain any 4 ergonomic principles of hand tool design.

[12 Marks]

b)

- i) What is shift work? [1 Mark]

- ii) Discuss three (3) adverse effects to worker's safety and three (3) adverse effects to worker's health? [12 Marks]