

UNIVERSITY OF ESWATINI

Faculty of Health Sciences

Department of Environmental Health Science

November 2019 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

Define the following terms:

- a) Muscles [4 Marks]
- b) Cumulative Trauma Disorders [4 Marks]
- c) Musculoskeletal disorders [4 Marks]
- d) Ergonomics [5 Marks]
- e) Workplace stress and its effects [8 Marks]

Question 2

Occupational exposures can either worsen the health condition of the employee or develop new illness/disability.

- i) Discuss any five (5) contributing factors to the health of an employee that are not related to the task he/she is employed for. Explain how health is affected. [20 Marks]
- ii) Discuss the outcomes of occupational exposures [5 Marks]

Question 3

- 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) Discuss five (5) classifications of occupational hazards that can affect the health and safety of an employee, give 2 examples in each. [10 Marks]

Question 4

- a) Discuss an ergonomic design of a sitting workstation; include the working surface and seat [10 Marks]
- b) Discuss an ergonomic design of a standing workstation [10 Marks]
- c) What are the adverse health effects of working shifts to workers [5 Marks]

Question 5

Occupational exposure can have adverse effects on the worker. In each of the following, discuss how the worker's health is affected by?

- a) Sugar cane cutting [5 Marks]
- b) Road construction [5 Marks]
- c) Plumbing [5 Marks]
- d) Painting [5 Marks]
- e) Welding and electric wiring [5 Marks]