

**SWAZILAND**  
**FACULTY OF HEALTH SCIENCES**  
**DEGREE IN ENVIRONMENTAL HEALTH SCIENCES**  
**(SUPPLIMENTRY EXAMINATION)**

**TITLE OF PAPER : OCCUPATIONAL HEALTH AND SAFETY**  
**COURSE CODE : EHS 315**  
**TIME : 3HOURS**  
**TOTAL MARKS : 100**

**INSTRUCTIONS:**

- **ANSWER ANY FOUR QUESTIONS**
- **QUESTION 1 (I) IS MULTIPLE CHOICE**
- **ALL QUESTIONS ARE WORTH 25 MARKS EACH**
- **NO FORM OF PAPER SHOULD BE BROUGHT IN OR OUT OF THE EXAMINATION ROOM**
- **BEGIN THE ANSWER TO EACH QUESTION IN A SEPARATE SHEET OF PAPER.**

**DO NO OPEN THIS EXAMINATION PAPER UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR.**

## QUESTION 1

**Multiple choice: Write True or False against each letter corresponding to the following statements as they apply to acoustics.**

- a) Ergonomics is the science of fitting workplace conditions and job demands to the capabilities of the working population.
- b) The risk assessment process ensures that factors influencing health are fully understood and adequately quantified so that decisions are taken in a consistent and cost-effective manner.
- c) Risk management is synonymous with hazard identification and risk assessment.
- d) The conduct of occupational hygiene surveys and studies is only one phase in the overall effort in determining occupational health hazards.
- e) Radiation protection does not cover the concepts of time, distance, and shielding.
- f) Barometric hazards can be categorized as hypobaric or high pressure hazards, hyperbaric or low pressure hazards, and hazards from changes in pressure.
- g) The concept of the equivalent continuous sound level is used where the noise level fluctuates, as it happens in most industrial situations.
- h) The macro-environment of the office, tool, warehouse, etc and the micro-environment that lies underneath the clothing and protective equipment that a worker wears.
- i) The risk of hearing loss from high noise environments depends on the noise level and the length of time of exposure.
- j) The direct field is due to reflections from the room surfaces and the reverberant field is due to noise radiating directly from the source.

### II.

Describe how hearing thresholds are determined?

## QUESTION 2

Describe air-borne pollutants and give one example of each and stipulate its source and an occupational health problem or disease associated with it.

**(25 marks)**

## QUESTION 3

Describe ergonomics under the following headings;

- a) The nature and scope
- b) Ergonomics-related hazards in the workplace
- c) Work-related musculoskeletal disorders manual handling
- d) Equipment and workplace design
- e) Shift work and related issues

**(25 marks)**

#### **QUESTION 4**

Describe the hazard substances management procedures under the following headings;

- a) Material Safety Data Sheets (MSDSs) **(8 marks)**
  - b) Receipt of chemical products on site **(5 marks)**
  - c) Storage facilities **(9 marks)**
  - d) Sampling **(3 marks)**
- (5 marks)**

#### **QUESTION 5**

- a) Define occupational health **(3 marks)**
- b) Define occupational health services **(5 marks)**
- c) Describe the functions listed in the ILO Convention on occupational health services (No. 161) **(11 marks)**