SWAZILAND
FACULTY OF HEALTH SCIENCES
DEGREE IN ENVIRONMENTAL HEALTH SCIENCES
(FINAL 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) Risk management in synonymous with hazard identification and risk assessment.
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) The risk of hearing loss from high noise environments depends on the noise level and the length of time of exposure.
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) Ergonomics is the science of fitting workplace conditions and job demands to the capabilities of the working population.
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.

Determine the LEP, d for a worker having the following exposure pattern.

87dB (A)	for 2 hours
89 dB (A)	for 3 hours
92 dB (A)	for 1.5 hours

(5 marks)

QUESTION 2

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)

QUESTION 3

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 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)

QUESTION 5

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)