



***“Investing in Africa’s
Future”***

**COLLEGE OF HEALTH, AGRICULTURE AND NATURAL
SCIENCES**

DEPARTMENT OF PUBLIC HEALTH AND NURSING

NSPH 537: OCCUPATIONAL HEALTH

END OF FIRST SEMESTER

EXAMINATION

NOVEMBER/DECEMBER 2020

LECTURER: MR. R. DOZVA

DURATION: (24 HRS)

INSTRUCTIONS

Do NOT write your name on the answer sheet.

Answer (fully) any one question of your choice.

Begin your answer for each question on a new page.

Each full question carries 100 marks.

Font: Times New Roman, Font size 12, Line space: 2.0.

Credit is given for neat, well-written and lucid work.

QUESTION 1

- 1a. Assess the level of preparedness of Zimbabwe in chemicals safety and health management in accordance with the provisions of the Globally Harmonised System (GHS). [25]
- 1b. Describe the components of occupational hygiene. [16]
- 1c. Air contains 125ppm of acetone (Exposure limit, 250ppm), 100ppm of sec- butyl acetate (Exposure limit, 200ppm) and 50ppm of methyl ethyl ketone (Exposure limit, 200ppm). Determine whether the exposure limit for this additive effect mixture has been exceeded. [9]
- 1d. Write short notes on the following
- i. Asphyxiation [5]
 - ii. Sick building syndrome [5]
 - iii. Lead [5]
 - iv. Chernobyl disaster [5]
 - v. Lighting [5]
- 1e. Africa University has hired you as a consultant to develop an occupational health program for its operations. Describe in detail the steps you would take to accomplish this assignment. [25]

QUESTION 2

- 2a. Discuss the management of biological hazards in Zimbabwean workplaces. [25]
- 2b. Explain the importance of occupational exposure limits. [13]
- 2c. Calculate the concentration of dust in milligrams per cubic metre (mg/M^3) using the following data: Pump flow rate 2litres per minute; Sampling time 4 hours 10 minutes; Weight of dust 5000 micrograms [12]
- 2d. Write short notes on the following
- i. Mercury [5]
 - ii. Occupational asthma [5]
 - iii. Legionella disease [5]
 - iv. Bhopal disaster [5]
 - v. Vibration [5]
- 2e. Discuss Heinrich's domino accident causation model as applied to accident prevention [25]

QUESTION 3

- 3a. Discuss the legislative and management systems approaches in the management of occupational health [25]
- 3b. What is the hierarchy of control? [10]

3c. Apply this principle to control chemical hazards in a room where different chemicals including benzene are being manually mixed to come up with a solvent.[15]

3d. Write short notes on the following

- i. Benzene [5]
- ii. Sensitization [5]
- iii. Occupational rehabilitation [5]
- iv. Ionizing radiation [5]
- v. Occupational stress [5]

3e. You have recently been appointed as a Safety and Health Officer (SHO) at a mining concern which has been in operation for 2 years and employing over a thousand workers. The previous SHO resigned a month ago and a report from the regulatory authority shows that the mine has a poor safety and health record and lacks a comprehensive Occupational Safety and Health Management System (OSHMS). One of your key result areas is to set up an OSHMS for the mine and to establish a relevant Human Resources structure to go along with the system. Discuss how you would go about with this assignment.[25]