



“Investing in Africa’s Future”

COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

DEPARTMENT OF PUBLIC HEALTH AND NURSING

NSHS 210: ENVIRONMENTAL AND OCCUPATIONAL HEALTH

END OF SECOND SEMESTER EXAMINATIONS

APRIL/MAY 2026

LECTURER: MR. E. CHIKAKA

DURATION: 3 HOURS

INSTRUCTIONS

ANSWER **ALL** QUESTIONS FROM SECTION A AND **ANY THREE (3)** FROM SECTION B

EACH QUESTION SHOULD START ON A FRESH PAGE

THE MARK ALLOCATION FOR EACH QUESTION IS INDICATED AT THE END OF THE QUESTION

CREDIT WILL BE GIVEN FOR LOGICAL, SYSTEMATIC, AND NEAT PRESENTATION

SECTION A: COMPULSORY (40 MARKS)

Answer ALL questions.

Question 1

a) Define the following terms:

i. Environmental Health (2)

ii. Occupational Health (2)

iii. Environmental Determinants of Health (2)

iv. Risk Assessment (2)

v. Health Impact Assessment (2)

Question 2

a) Describe four major environmental determinants of health and give one Zimbabwean example for each. (8)

b) Outline two differences between environmental health and occupational health. (2)

Question 3

a) Explain the sources and health effects of air pollution. (6)

b) Discuss three control measures for water pollution. (4)

Question 4

a) Describe the four steps of risk assessment in environmental toxicology. (8)

b) Define dose-response relationship. (2)

SECTION B: (60 MARKS)

Answer ANY THREE questions.

Question 5

Case Study: Mbare Musika Market in Harare experiences poor waste disposal, blocked drainage, and frequent outbreaks of diarrhoeal diseases.

a) Discuss the types of waste and their impact on public health in this context. (10)

b) Evaluate waste management strategies applicable to this setting and suggest improvements. (10)

Question 6

Case Study: Workers at a gold mine in Kadoma report respiratory problems and hearing loss.

a) Discuss physical, chemical, and biological hazards present in mining environments. (12)

b) Propose control measures using the hierarchy of controls. (8)

Question 7

Case Study: Cyclone Idai significantly affected Chimanimani District causing flooding and disease outbreaks.

a) Explain the relationship between climate change and global health using this example. (10)

b) Discuss the role of environmental policies in disaster risk reduction in Zimbabwe. (10)

Question 8

a) Define Environmental Epidemiology and explain its importance in Zimbabwe. (8)

b) Describe the steps involved in conducting a Health Impact Assessment (HIA) for a proposed new industrial plant in Harare. (12)



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SECTION A: COMPULSORY (40 MARKS)

Answer ALL questions.

Question 1

State and explain five objectives of Environmental and Occupational Health. (10)

Question 2

Define the following:

- i. Industrial Hygiene (2)
- ii. Ergonomics (2)
- iii. Occupational Disease (2)
- iv. Exposure Assessment (2)
- v. Environmental Policy (2)

Question 3

- a) Discuss the importance of sanitation in disease prevention in high-density suburbs such as Kuwadzana. (6)
- b) Outline four methods of solid waste disposal used in Zimbabwe. (4)

Question 4

- a) Explain the principles of industrial hygiene and workplace monitoring. (6)
- b) Describe three occupational diseases common in Zimbabwe and their causes. (4)

SECTION B: (60 MARKS)

Answer ANY THREE questions.

Question 5

Case Study: Residents of Norton report frequent water cuts and use of shallow wells leading to typhoid outbreaks.

- a) Discuss sources and health effects of water pollution in this scenario. (10)
- b) Propose community-based interventions to reduce water contamination. (10)

Question 6

- a) Critically discuss the statement: 'Zero harm in occupational health is achievable' using Zimbabwean industries as examples. (12)
- b) Examine the role of ILO conventions in promoting workplace safety. (8)

Question 7

Case Study: A pesticide storage facility in Mutare experiences chemical leakage affecting nearby communities.

- a) Explain environmental toxicology and dose-response relationships in this context. (10)
- b) Describe hazard identification and risk characterization processes. (10)

Question 8

Case Study: Increased malaria incidence in the Zambezi Valley linked to rising temperatures.

- a) Discuss the role of climate change in emerging infectious diseases. (10)
- b) Explain how environmental epidemiology contributes to evidence-based policy-making in Zimbabwe. (10)