



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF HEALTH, APPLIED SCIENCES AND NATURAL RESOURCES

DEPARTMENT OF NATURAL AND APPLIED SCIENCES

QUALIFICATION : BACHELOR OF SCIENCE HONOURS	
QUALIFICATION CODE: 08BOSH	LEVEL: 8
COURSE: ENVIRONMENT PHYSICS	COURSE CODE: ENP811S
SESSION: JULY 2022	PAPER: THEORY
DURATION: 3 Hours	MARKS: 100

SUPPLEMENTARY/SECOND OPPORTUNITY EXAMINATION PAPER	
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THIS QUESTION PAPER CONSISTS OF 3 PAGES
(Including this front page)

QUESTION 1 [25]

- 1.1 Explain the term environmental sustainability. (5)
- 1.2 Explain four reasons why many experts in environmental science think that human society is not operating sustainably. (8)
- 1.3 Differentiate between chemical energy and nuclear energy and give one example each. (6)
- 1.4 Discuss the three component in solving environmental problems. (6)

QUESTION 2 [20]

- 2.1 Describe the Hydrologic Cycle and explain how the cycle important to life on earth. (6)
- 2.2 Explain how temperature changes with season. (6)
- 2.3 Describe the layer of the atmosphere called the thermosphere and explain its importance to humans on earth. (8)

QUESTION 3 [23]

- 3.1 Differentiate between ionizing and non-ionizing radiation and give two example each. (6)
- 3.2 You have been engaged by the ministry of mine and energy as an environmental physicist. Discuss your advice to the minister, on safety the features of nuclear power plant. (7)
- 3.3 Explain the term radioactive decay. (3)
- 3.4 A radioactive material has a half-life of 10 hours. What fraction of the original radioactive nuclei will remain after 30 hours? (7)

QUESTION 4 [32]

- 4.1 Explain the term aerosol. (3)
- 4.2 How is aerosol regarded as a nuisance in air and as a settled or deposited matter? (5)
- 4.3 Describe a fog and explain its formation and give one effect to the environment. (5)
- 4.4 Explain the effects of air pollution on weather. (4)
- 4.5 How does wind affect the concentration of pollutant near a point of discharge? (5)

4.6 Define adiabatic lapse rate and explain under the condition of adiabatic lapse rate what becomes of a smoke plume. (7)

4.7 What happens on a clear summer day when the lapse rate is super adiabatic? (3)

END