



PROGRAMME : BACHELORS ENVIRONMENTAL HEALTH
SUBJECT : SUSTAINABLE DEVELOPMENT AND ECOLOGY 1
CODE : SDEEH01
DATE : 4 JUNE 2018 (FINAL EXAM)
DURATION : 3 HRS
WEIGHT : 50: 50
TOTAL MARKS : 150

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MODERATOR : MR T MBONANE
NUMBER OF PAGES : 4 PAGES

NOTES:

1. ALL THE QUESTIONS MUST BE ANSWERED.
 2. ANSWERS THAT ARE NOT TECHNICALLY CORRECT AND LOGICALLY STRUCTURED SHOULD BE PENALISED.
 3. ANSWERS TO QUESTIONS MUST NOT BE SPLIT. IF SO ONLY THE FIRST PART OF THE ANSWER WILL BE MARKED.
 4. STUDENTS MAY START ANSWERING ANY QUESTION FIRST.
 5. ANSWERS THAT ARE LOGICALLY CORRECT CAN BE ACCEPTED SINCE SDEEH01 IS A PRACTICAL SUBJECT.
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Question 1: Sustainable Development (20 Marks)

The United Nations (UN) announced seventeen Sustainable Development Goals (SDGs) to "end poverty, protect the planet, and ensure prosperity for all." The goals outlined are the result of a global consultation on universal values, and have been signed onto by the UN's 193 member states. These goals, being rolled out by the United Nations Development Programme (UNDP) follow on from the Millennium Development Goals (MDGs) that were set between 2000 and 2015. They provide benchmarks to be worked towards, at the level of individual, corporate, government, and community initiative, over the next fifteen years.

- 1.1 When was the 2030 Agenda for Sustainable Development formally adopted?
(1x1 = 1)
- 1.2 How many targets were agreed upon?
(1x1 = 1)
- 1.3 'Sustainable development' is the keyword of the United Nations' post-2015 vision for the world. Explain your understanding of sustainable development and its significance
(8x1 = 8)
- 1.4 Explain how did Sustainable Development Goals (SDGs) come about and how are they different from Millennium Development Goals (MDGs)? Also indicate when SDGs came into effect.
(5x1 = 5)
- 1.5 Discuss the principles of Sustainable Development Goals (SDGs)?
(5x1 = 5)

Question 2: Ecology (20 Marks)

- 2.1 Explain the concept ecology?
(5x1=5)
- 2.2 Based on the Scope of Practice for Environmental Health Practitioners (EHPs), what is the importance of studying ecology?
(5x1= 5)
- 2.3 Name and discuss the relevant SDGs which can be associated to the Ecology System
(10x1=10)

Question 3: Climate Change and Global Warming (20 Marks)

- 3.1 What is climate change?
(3x1 = 3)
- 3.2 What is the ambient temperature range which poses a minimal risk to human health as defined by the World Health Organisation?
(2x1 = 2)

3.3 Describe the environmental health effects of climate change and global warming. Support your answers with relevant examples where applicable.

(15x1 = 15)

Question 4: Sustainable Energy (30 Marks)

Read the following article published on 4 April by News24 and answer all the questions:

The Koeberg Nuclear Power Station says within the next month it will be self-reliant on its water supply. The energy giant has built a temporary ground water desalination plant which will be processing 920 kilo litres of water per day. The Nuclear Power Station has revealed its water resilience Strategy as the Western Cape battles an ongoing drought. The water thirsty power supplier is now operating a temporary ground water desalination plant whereby the processed water will be used for its operations. Since being operational the nuclear power plant has reduced its water usage of the City's water supply by 35 percent which equals 115 million litres water over the last eight months. The Nuclear Power Station's permanent Ground Water Desalination Plant is expected to be up and running at the beginning of next year.

4.1 Describe the link between Water and Energy use by industries like power stations in terms of sustainable development.

(2x3 = 6)

4.2 Discuss the two (2) key sustainable development goals (SDGs) which relates to the news article above.

(7x2 = 14)

4.3 Describe some of the benefits of having a desalination plant on site.

(10x1 = 10)

Question 5: Energy & Diversification (30 Marks)

5.1 Which government department is responsible for the regulation of Energy in South Africa?

(2x1 = 2)

5.2 Explain the mandate of the energy regulator.

(4x1 = 4)

5.3 Who is the former or current Minister of Energy?

(2x1 = 2)

5.4 What does it mean to be "Off the Grid"?

(2x1 = 2)

5.5 Discuss the benefits of Off-Grid Energy?

(5x1 = 5)

5.6 What is Free Basic Electricity (FBE) and how many units does households get free?
(5x1 = 5)

5.7 Discuss two (2) renewable energy sources that can be used in the peri-urban communities in the Western Cape and elaborate how it's benefits. Support your answers with relevant examples where applicable.
(2x5 = 10)

Question 6: Environmental Impact Assessment (30 Marks)

6.1 What is Environmental Impact Assessment (EIA)?
(4x1 = 4)

6.2 Name and describe the 3 core values of EIA.
(3x2 = 6)

6.3 Briefly describe the steps in the EIA process.
(10x1= 10)

6.4 List the ten (10) guiding principles of EIA. (10)
(10x1= 10)

Total Marks =150