

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCE
DEPARTMENT OF ENVIRONMENTAL SCIENCE AND HEALTH
BACHELOR OF ENVIRONMENTAL SCIENCE HONOURS DEGREE
FINAL EXAMINATIONS

MANAGEMENT OF ARID AND SEMI ARID LANDS: ESH 4104

January 2013

Time allowed: 3 hours

Total marks 100

INSTRUCTIONS:

Answer any FOUR questions: Each question carries 25 marks.

Question 1

- a) Define a strategic plan and explain how it is formulated (10 marks)
b) Discuss how a local plan is aligned to a corporate environmental strategic plan either at a regional or international level (15 marks)

Question 2

- a) Discuss the main drivers of desertification in Africa (10 marks)
b) Explain how communities affected by desertification are responding to the process (15 marks)

Question 3

- a) Explain with the aid of a diagram how man is changing the hydrological cycle with particular reference to Southern Africa. (15 marks)
b) As a development worker responsible for catchment conservation outline possible ways of improving water supply and conservation (10 marks)

Question 4

- a) There has been a huge leap in climate change in the last 50 years, and even more pronounced in the last 12 years; describe the indicators for this condition. (10 marks)
b) Semi-arid regions are increasingly becoming more vulnerable to climate change. Discuss with reference to the Sub-Saharan Africa (15 marks)

Question 5

- a) Define the concepts of eco-business and common pool resources (10 marks)
b) Outline how eco-business can be applied to enhance energy resources management in areas of scarcity and common property practice (15 marks)

Question 6

- a) Describe a community based initiative in wildlife management partnership in the marginal lands (15 marks)
b) Discuss the merits and demerits of the initiative (10 marks)

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SUPPLEMENTARY EXAMINATIONS

MANAGEMENT OF ARID AND SEMI ARID LANDS: ESH 4104

Year 2013

Time allowed: 3 hours

Total marks 100

INSTRUCTIONS:

Answer any FOUR questions: Each question carries 25 marks.

Question 1

- a) Explain the significance of a strategic plan in an organisation (5 marks)
- b) Describe the process of formulating a strategic plan in an organisation dealing with water supply (10 marks)
- c) Explain an international environmental strategy and how it informs local activities. (10 marks)

Question 2

- a) Discuss main indicators of desertification in Southern Africa especially in Zimbabwe. (10 marks)
- b) Explain how communities affected by desertification are responding to the condition. (15 marks)

Question 3

- a) Assess the effects of climate change resulting from rapid increase in carbon dioxide and temperature on any two biogeography activities:
 - i) Plants
 - ii) Animals
 - iii) Agriculture
 - iv) Aquatic ecosystem

Question 4

- a) There has been a huge leap in climate change in the last 50 years, and even more pronounced in the last 12 years; describe the indicators for this condition (10 marks)
- b) Semi-arid regions are increasingly becoming more vulnerable to climate change discuss with reference to the sub-Saharan Africa (15 marks)

Question 5

- a) Explain the concept of common pool resources and the tragedy of the commons in the context of resource scarcity **(10 marks)**
- b) As a development worker how would you improve the management of a resource subjected to the above concepts? **(15 marks)**

Question 6

- a) Describe a community based programme for managing a natural resources in marginal lands in Africa **(15 marks)**
- b) Discuss the challenges of a programme of this magnitude. **(10 marks)**

End of question paper