

GGH2604

May/June 2018

People and the Environment

Duration 2 Hours

100 Marks

EXAMINERS

FIRST

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SECOND

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Closed book examination

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This question paper consists of **three (3)** pages

Important:

Make sure that your student number and all required information are written on your examination script.

Answer **Any Four (4)** questions

[TURN OVER]

Question 1

- 1 1 In your opinion, is the exploitation of Unconventional Oil and Gas (UOG) resources an effective way of reducing South Africa's carbon footprint? Provide reason to support your answer (3)
- 1 2 Recently, the Minister of Energy and Mineral Resources issued permission for the development of shale gas extraction in the Karoo. Explain how gas extraction (fracking) may negatively affect the natural environment of the Karoo. (6)
- 1 3 Discuss **three (3)** roles of mangroves in the functioning of an ecosystem and explain **two (2)** ways in which human activities cause biodiversity loss in mangroves. (10)
- 1 4 Suggest and explain **three (3)** remedial actions that can be applied to reduce or prevent biodiversity loss in mangroves. You will benefit by providing real world examples in your answer. (6)

[25]**Question 2**

- 2 1 Discuss various ways in which agricultural activities have negatively affected soil resources. (5)
- 2 2 Examine the origin and characteristics of the following soil conservation techniques that have been adopted by the farming communities in East Africa and assess their effectiveness in soil conservation. (10)
- (a) Fanya juu terracing in Machakos, Kenya
- (b) Konso terracing in Ethiopia
- 2 3 List and discuss **five (5)** factors that are responsible for the exploitation of forest resources in Tropical Africa. (10)

[25]**Question 3**

- 3 1 " Kaplan argued that rising population levels and resource scarcity were leading to hunger and conflicts over scarce resources in regions such as West Africa" (Whitehead, 2014: 32).
Do you agree with the abovementioned argument? Motivate your answer. (3)
- 3 2 The International Union for Conservation of Nature (IUCN) (2015) estimates that approximately 10 million hectares of the Guinean Forest of West Africa were lost prior to the year 2000. Discuss the main drivers contributing to the deforestation of this biodiversity hotspot. (6)
- 3 3 Describe **three (2)** major sources of air pollution in the city of Lagos and propose **three (3)** measures that can be taken to reduce air pollution in the city. (6)

[TURN OVER]

- 3.4 According to UNEP (2016: 16), Africa " is warming faster than the global average, with projections of a rise of 3 - 4 °C this century (10)

Explain why Africa is most likely to suffer from the effects of climate change. In your answer, make specific reference to the characteristics that make Africa more vulnerable

[25]

Question 4

- 4.1 Describe the term "geoengineering"? (2)
- 4.2 Discuss the process of greenhouse effect and give **two (2)** examples of greenhouse gases (8)
- 4.3 Discuss **three (3)** ways in which acid precipitation affects biodiversity (6)
- 4.4 Explain what is meant by "toxic colonialism" and name **one (1)** of the large e-waste sites in the Africa (3)
- 4.5 Define the term "globalisation" and discuss its role on illegal trade of Rhino horns in southern Africa (6)

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Question 5

- 5.1 Explain what is meant by the term "Anthropocene" (2)
- 5.2 Recently, restrictions on water use were introduced in urban areas in South Africa during lower rainfall periods. Do you think South Africa's water scarcity situation is an example of the Malthusian, Cornucopian or Marxist perspective? Give reasons to motivate your answer (3)
- 5.3 Ethiopia is in the final stages of constructing the largest hydropower dam in Africa within the Blue Nile Basin called the Grand Ethiopian Renaissance Dam (GERD) with a storage capacity of about 74 Billion Cubic Litres (BCL). The Blue Nile Basin is a source of about 85% of Nile River water and the impoundment of water is expected to significantly reduce the flow of water in the Nile River (Yihdego et al., 2017) (10)
- Assess the possible ecological effects of the GERD construction on downstream ecosystems that depend on the Nile River
- 5.4 Using South Africa as an example, outline how gold mining activities have negatively affected the natural environment (10)

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TOTAL: 100 marks