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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY

UNIVERSITY EXAMINATION, 2024/2025 ACADEMIC YEAR
THIRD YEAR, FIRST SEMESTER EXAMINATION
FOR THE DEGREE OF BACHELOR OF SCIENCE
(BUSINESS ADMINISTRATION)

Date: 11th April, 2024
Time: 8.30am –10.30am

KLC 2308 - ENVIRONMENTAL STUDIES

INSTRUCTIONS TO CANDIDATES

ANSWER **QUESTION ONE (COMPULSORY)** AND **ANY OTHER TWO** QUESTIONS

QUESTION ONE (30 MARKS)

CASE STUDY

ENVIRONMENTAL CHALLENGES AND OPPORTUNITIES IN KENYA

Kenya's unique atmospheric dynamics play a crucial role in shaping local weather patterns, significantly impacting agricultural practices. The country experiences a mix of equatorial and temperate climates due to its varied topography. Regions such as the Central Highlands benefit from reliable rainfall, fostering diverse agricultural outputs, while arid and semi-arid areas face challenges with water scarcity. This disparity necessitates adaptive farming techniques, such as drought-resistant crops in dry regions. Furthermore, changing climate patterns threaten to disrupt these established systems, requiring farmers to innovate and diversify their practices to ensure food security.Soil types across Kenya, from volcanic ash in the Rift Valley to sandy soils in coastal areas, greatly influence agricultural productivity and land management. Fertile soils support high-yield crops, while poor soil quality in other regions necessitates different management strategies, such as crop rotation and organic fertilization.

However, population growth is putting pressure on these resources, leading to over-extraction and degradation. As urban areas expand, the competition for land and water resources intensifies, prompting a need for sustainable land-use planning to balance development and conservation efforts. In addressing environmental sustainability, Kenya has significant potential to harness renewable energy sources, including solar, wind, and geothermal power. The government has initiated policies aimed at reducing reliance on fossil fuels, which contribute to climate change and pollution. Nonetheless, the effectiveness of environmental laws in regulating activities like deforestation and urban pollution remains a challenge. With the looming threat of climate change, particularly in vulnerable ecosystems like the Maasai Mara, strategies such as reforestation, sustainable agriculture, and community engagement are vital. By strengthening these approaches and enhancing regulatory frameworks, Kenya can work towards a more sustainable future while protecting its rich biodiversity and natural resources.

a) Assess three atmospheric dynamics that influence weather patterns in Kenya, according to the above case. (6 Marks)

b) Using the case study, analyze the relationship between population growth and over-extraction and degradation of natural resources in Kenya. (7 Marks)

c) Examine the potential consequences of climate change on ecosystems like the Maasai Mara as shown in the above case study. (6 Marks)

d) Evaluate the effectiveness of current environmental laws in Kenya regarding deforestation and urban pollution, based on the above case study. (6 Marks)

e) According to the above case study, discuss the impact of urban expansion on land and water resources in Kenya. (5 Marks)

QUESTION TWO (20 MARKS)

a) Explain any two changes that occur in the thermal regime. (4 Marks)

b) Discuss four causes of soil pollution in Kenya. (8 Marks)

c) Analyze the disparities in agricultural productivity between the Central Highlands and arid regions of Kenya. (8 Marks)

QUESTION THREE (20 MARKS)

a) Define the term ozone layer. (2 Marks)

b) State four functions of an ecosystem. (4 Marks)

c) Assess the main challenges faced by the Kenyan government in enforcing. (6 Marks)

d) Critically assess the role of community engagement in promoting sustainable agricultural practices and environmental conservation in Kenya. (8 Marks)

QUESTION FOUR (20 MARKS)

a) Highlight two sources of water in Kenya. (2 Marks)

b) Explain three effects of the overuse of groundwater. (6 Marks)

c) Propose a comprehensive plan for sustainable land-use planning in urban areas of Kenya. (6 Marks)

d) Analyze the disparities in agricultural productivity between the Central Highlands and arid regions of Kenya. 6 Marks)

QUESTION FIVE(20 MARKS)

a) Using examples, explain four soil conservation methods used in Kenya. (6 Marks)

b) Discuss the effects of Ozone layer depletion on livelihoods globally. (6 Marks)

c) Critically assess the role of community engagement in promoting sustainable agricultural practices and environmental conservation in Kenya. (8 Marks)