



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF SPATIAL PLANNING
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
WATER RESOURCE AND ENVIRONMENTAL MANAGEMENT
SEMESTER 2016/2017 ACADEMIC YEAR

CENTRE: MAIN CAMPUS

COURSE CODE: PES 3111

COURSE TITLE: INTRODUCTION ENVIRONMENTAL STUDIES

EXAM VENUE: STREAM: SPATIAL PLANNING

DATE: EXAM SESSION:

TIME: 2 HOURS

Instructions:

- 1. Answer question 1 (compulsory) and ANY other 2 questions.**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

Q1. a) Distinguish between the environmental concepts of ecosystem and Habitat [2Mks]

b) By use of examples, explain the following ecosystem functions

(i) Provisioning/utilitarian [5 Mks]

(ii) Regulating services [5 Mks]

(iii) Enriching services [5 Mks]

c) Why should Professionals in Spatial Planning and Water Resource and Environmental Management be knowledgeable in Environmental Studies [4 Mks]

d) (i) Distinguish between Creative thinking and Critical thinking and explain their usefulness in the study of Environment [6 Mks]

(ii) Explain the meaning of a concept map and explain its usefulness in learning of environmental studies [3 Mks]

Q2. (a) Describe the environmental roles of the following:

(i) Atmosphere [5 Mks]

(ii) Hydrosphere [5 Mks]

(iii) Lithosphere [5 Mks]

(b) Identify and describe anthropogenic activities with negative impacts on each of the above (Atmosphere, Hydrosphere and lithosphere) [5 Mks]

Q.3. (a) “The natural earth is a self-governing or self-regulating entity with the capacity to keep itself healthy by controlling the chemical and physical environment and keeping matter and processes within naturally acceptable limits”. Illustrate this statement using any three biogeochemical cycles. [15 Mks]

(b) Given the important role that forests and forestry play in the environment, what approaches has the Kenya government adopted to improve forest coverage as well as conserve existing forests? [5 Mks]

Q4. (a) (i) Identify and describe the main sources of ground water pollution [8 Mks]

(ii) Identify and explain the effect of pollutants on freshwater life forms [6 Mks]

(b) (i) What do you understand by climate change? [1 Mk]

(ii) Using diagram illustrate the greenhouse effect. [5 Mks]

Q5 (a) “Towns and cities are characterized by a myriad of environmental problems”.

(i) Identify three levels at which such problems are felt. [3 Mks]

(ii) Describe any three key problems at each of the three levels in (a) above. In your opinion at what level should the problems be addressed and why? [9 Mks]

(b) Differentiate between renewable and non-renewable energy sources [2 Mks]

(c) Identify the negative impacts associated with energy on the environment and human health at the following levels

(i) Production [2 Mks]

(ii) Transportation [2 Mks]

(iii) Utilization [3 Mks]