TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF ENVIRONMENT & HEALTH SCIENCES

UNIVERSITY EXAMINATION FOR:

BTRE15S, BTAP15S &BSMM15S SEMESTER II

AES 4101- ENVIRONMENTAL STUDIES SEMESTER EXAMINATION

SERIES: APRIL/MAY 2016

TIME: 2 HOURS

Instructions to Candidates

This paper consists of FIVE questions

Answer question ONE (COMPULSORY) and any other TWO questions

This paper consists of two printed pages.

Question One (Compulsory)

- **a.** Define the following terms (5 marks)
 - i. Primary energy
 - ii. Biological Oxygen Demand (BOD)
 - iii. Holocoenosis
 - iv. Genetic erosion
 - v. Animate energy
- b. Explain the functional components of an ecosystem (3marks)
- c. Describe the principle components of the earth (4marks).
- d. Describe the forces driving the hydrological cycle (**4marks**).
- e. Giving examples, explain the forms of pollutants that exist in the environment. (3marks).
- f. i. Define the term 'biogeochemical cycle'. (1mark)
 - ii. Describe the importance of biogeochemical cycle in an ecosystem. (4marks)
- g. Describe the environmental impacts of mining as a land use in Kenya. (4marks)
- h. Describe three measures that can be taken by the Kenyan government to prevent the expansion of human population in the cities. (3 marks).

Question Two

Discuss ways in which humans alter the biogeochemical cycle in Kenya today (20marks).

Question Three

Using a well labeled diagram, describe the nitrogen cycle indicating the component processes where necessary. (20marks).

Question Four

Discuss the potential environmental impacts of agricultural land uses along River Tana and the effective management strategies (20marks).

Question Five

Discuss the environmental impacts (pros and cons) of the discovered oil fuels in Turkana region of Kenya. (20marks).