



MACHAKOS UNIVERSITY

University Examinations for 2016/2017

SCHOOL OF AGRICULTURE AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL STUDIES

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR OF
SCIENCE IN ENVIRONMENTAL STUDIES (ENVIRONMENT RESOURCES
CONSERVATION)**

ENS 134: TECHNOLOGY, ENVIRONMENT AND DEVELOPMENT

DATE: 6/6/2017

TIME: 2:00 – 4:00 PM

INSTRUCTIONS:

Answer Question ONE and ANY other Two Questions

QUESTION ONE (COMPULSORY)

- a) Using examples, explain four categories that a technology can be placed (4 marks)
- b) Using clear illustrations, outline four components that encompass the totality of the environment (6 marks)
- c) Define the following terms:
 - i. Development gap (2 marks)
 - ii. Industrialization (2 marks)
 - iii. Development continuum (2 marks)
 - iv. Environment (2 marks)
- d)
 - i. Explain five (5) interlinked components of development continuum (5 marks)
 - ii. Describe three problems associated with Gross Domestic Product (GDP) in measuring development gap (3 marks)
- e) List four principles that an organization should put in place to achieve sustainable development (4 marks)

QUESTION TWO (20 MARKS)

- a) Describe four modern technologies in agriculture and industry (8 marks)
- b) Explain the six stages of technology or innovation adoption process (6 marks)
- c) Explain four levels of development continuum under which a country can be placed (6 marks)

QUESTION THREE (20 MARKS)

- a) Explain four theories of development (12 marks)
- b) Describe four indicators that can be used to measure development gap (8 marks)

QUESTION FOUR (20 MARKS)

- a)
 - i Explain three problems associated with urbanization (6 marks)
 - ii State the three components of sustainability identified by the Economist Daly (3 marks)
 - iii Illustrate the setup of the three components (3 marks)
- b) What is the difference between indigenous knowledge and traditional knowledge? (4 marks)
- c) Describe two ways that are of particular relevance to policy-makers through which contemporary globalization manifests itself (4 marks)

QUESTION FIVE (20 MARKS)

- a)
 - i Outline four ways through which technologies can be transferred (4 marks)
 - ii Describe four challenges facing the agricultural sector in terms of technology development and transfer systems in the Eastern and Central African region (8 marks)
- b) Explain four challenges associated with urbanization (8 marks)