



MACHAKOS UNIVERSITY

University Examinations for 2018/2019

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCE MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

**THIRD YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR
BACHELOR OF ENVIRONMENTAL STUDIES (RESOURCE CONSERVATION)
ERC 321: WATER AND MARINE RESOURCES MANAGEMENT**

DATE: 26/9/2019

TIME: 2:00 – 4:00 PM

INSTRUCTIONS: Answer Question **one** and any other **two** questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Explain the meaning of the following
- i) Hydrological cycle (2 marks)
 - ii) Eutrophication (2 marks)
 - iii) An Ecosystem (2 marks)
 - iv) Land use planning (2 marks)
 - v) Heavy metals (2 marks)
- b) Explain the effects of heavy metals to fresh water and marine resources in Kenya (10 marks)
- c) Explain five physicochemical characteristics of water and their influence on productivity and survival of aquatic life (10 marks)

QUESTION TWO (20 MARKS)

Discuss five impacts of human activities on aquatic systems in Kenya and their effects to biodiversity.

QUESTION THREE (20 MARKS)

Using examples, explain the benefits of marine resources to local communities living along the Kenyan Coast line.

QUESTION FOUR (20 MARKS)

- a) Explain the possible ecological impacts that may result from the construction of Thwake dam in Makueni County (10 marks)
- b) Discuss the principles of Integrated Water Resources Management. (10 marks)

QUESTION FIVE (20 MARKS)

Discuss two major categories of aquatic ecosystems in Kenya