



# MACHAKOS UNIVERSITY

University Examinations for 2018/2019 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

THIRD YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR  
BACHELOR IN ENVIRONMENTAL STUDIES (RESOURCE CONSERVATION)

ERC 321: WATER AND MARINE RESOURCES MANAGEMENT

DATE: 25/7/2019

TIME: 2.00-4.00 PM

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## INSTRUCTIONS:

Answer question ONE and any other TWO questions

### QUESTION ONE (30 MARKS)

- a) Explain the meaning of the following
- |                      |           |
|----------------------|-----------|
| i. Lotic ecosystems  | (2 marks) |
| ii. Eutrophication   | (2 marks) |
| iii. Water pollution | (2 marks) |
| iv. Coral reefs      | (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 the major challenges faced in the management of lake Naivasha fisheries resources and suggest possible ways in which they can be managed sustainably (20 marks)

**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) Using examples, explain the effects of physical alternation of aquatic ecosystems in Kenya (10 marks)
- b) Discuss the principles of Integrated Water Resources Management (10 marks)

**QUESTION FIVE (20 MARKS)**

Describe the basic steps followed in land use planning