



# MACHAKOS UNIVERSITY

University Examinations For 2018/2019 Academic Year

**SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT**

**DEPARTMENT OF ENVIRONMENTAL SCIENCES**

**THIRD YEAR SECOND SEMESTER EXAMINATION FOR**

**BACHELOR OF ENVIRONMENTAL STUDIES (RESOURCE CONSERVATION)**

**ERC 321: WATER AND MARINE RESOURCES MANAGEMENT**

**DATE: 15/4/2019**

**TIME: 2:00 – 4:00 PM**

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

1. a) Explain the meaning of the following
  - i) Lentic ecosystems (2 marks)
  - ii) Sediment Sluicing (2 marks)
  - iii) Estuaries (2 marks)
  - iv) Coral reefs (2 marks)
  - v) Watershed (2 marks)
- b) Explain the possible ecological impacts that may result from the construction of Thwake dam in Makueni County. (10 marks)
- c) Using examples explain why water resources planning and management is important in Kenya. (10 marks)
2. Citing examples, discuss five challenges facing the management of aquatic resources in Kenyan lakes and suggest possible remedial measures that can be used to manage the resources sustainably. (20 marks)
3. Using examples, explain the benefits of marine resources to local communities living along the Kenyan Coast line (20 marks)
4. a) Describe the organizational structure and the roles of Water Resources Authority in Kenya. (10 marks)
- b) Discuss the principles of Integrated Water Resources Management. (10 marks)
5. Explain the effects of heavy metals and pesticides on aquatic ecosystems and human health. (20 marks)