



# MACHAKOS UNIVERSITY

University Examinations For 2021/2022 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

THIRD YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF ENVIRONMENTAL STUDIES (ENVIRONMENTAL RESOURCE  
CONSERVATION)

ERC 321: WATER AND MARINE RESOURCES MANAGEMENT

**DATE:**

**TIME:**

**INSTRUCTIONS: Answer question ONE and any other TWO**

## QUESTION ONE (COMPULSORY) (30 MARKS)

- Discuss the benefits of Marine Protected Areas (MPA) in Kenya. (8 marks)
- Discuss the concept of Integrated Water Resources Management (IWRM). (10 marks)
- Explain the ecological effects of damming on rivers. (12 marks)

## QUESTION TWO (20 MARKS)

Discuss the steps that should be considered when developing a water quality management plan for a Kenyan County.

## QUESTION THREE (20 MARKS)

Land use activities have greatly degraded the conditions of aquatic ecosystems in Kenya. Discuss.

## QUESTION FOUR (20 MARKS)

Discuss the application of the Bottom-up Approach as an important concept for sustainable water resources management in Kenya.

## QUESTION FIVE (20 MARKS)

As a manager for Lake Naivasha, explain the measures that you would put into place to ensure sustainable management of the fishery resources.