

# **TECHNICAL UNIVERSITY OF MOMBASA**

Faculty of Applied & Health Sciences

Department of Environment & Health Sciences

University Examination for the Degree of Bachelor of Science in Marine  
Resource Management

**BSMR 14S/YEAR 2/SEMESTER 2**

Code: AES 4211: RESOURCE ASSESSMENT AND MONITORING TOOLS PAPER 1

**SEMESTER EXAMINATION**

**SERIES: MAY/2016**

**TIME: 2HRS**

## **Instructions to Candidates**

This paper consists of FIVE questions

Answer question ONE (COMPULSORY) and any other TWO questions

**This paper consists of one printed page**

### **QUESTION ONE (30 MARKS)**

- a) Define ecological resource monitoring (3 marks)
- b) State the main reasons why resource monitoring is commonly conducted in the lagoons (4 mks)
- c) Differentiate between management monitoring and scientific monitoring protocols (4 marks)
- d) State the main reasons for replicating resource sampling stations or sites (2 mks)
- e) Briefly state the applications of GIS in resource assessment (5 marks)
- f) Briefly discuss the reef check method in Rapid Ecological Assessment (REA) of coral reefs (4 marks)
- g) Briefly discuss the Medium Scale Approach (MSA) in Rapid Ecological Assessment (REA) of benthic resources (4 marks)
- h) State the main reasons for monitoring coastal and marine resources (4 mks)

### **QUESTION TWO (20 MARKS)**

As a fisheries biologist discuss the main methods used in fish population monitoring in a tropical lagoon fishery (20 marks).

### **QUESTION THREE (20 MARKS)**

As a Marine Ecologist in-charge of providing advice to a Marine Protected Area (MPA) Manager, explain the main factors that determine the level of a monitoring programme for an MPA (20 marks)

### **QUESTION FOUR (20 MARKS)**

Discuss the Belt Transect Method in invertebrate biodiversity monitoring in a Marine Protected Area (MPA) like the Kisite-Mpunguti National Marine Park and Reserve (20 marks)

### **QUESTION FIVE (20 MARKS)**

- a) Explain the typical questions that may be answered by a GIS as a resource monitoring tool (10 marks)
- b) Briefly discuss the main sources of data or information in a research project (10 marks)