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**TECHNICAL UNIVERSITY OF MOMBASA**  
**FACULTY OF APPLIED AND HEALTH SCIENCES**  
**DEPARTMENT OF ENVIRONMENT & HEALTH SCIENCES**  
**UNIVERSITY EXAMINATION FOR:**  
**BACHELOR OF SCIENCE IN MARINE RESOURCES MANAGEMENT**  
**BSMR 14S/YEAR 4/ SEMESTER 1**

**AES 4417: LAND USE, LAND USE CHANGES AND RESOURCES**

**SPECIAL/ SUPPLEMENTARY EXAMINATIONS**  
**SERIES: SEPTEMBER 2018**  
**TIME: 2 HOURS**

***Instructions to Candidates***

This paper consists of FOUR questions

Answer question ONE (COMPULSORY) and any other TWO questions.

***This paper consists of two printed pages.***

***Mobile phones are NOT allowed in the examination room***

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**QUESTION ONE. (30 MARKS)**

- a) Describe the following terms
- i. Land cover (2marks)
  - ii. Land use (2marks)
- b) Differentiate between land tenure and land use change (3marks)
- c) i) What are marine resources? (2marks)
- ii) List two types of marine resources? (2marks)
- d) Name the FIVE types of land use. (5marks)
- e) Outline FOUR causes of land use change. (4marks)
- f) Describe what carbon sinks are. (3marks)
- g) Outline the THREE property rights. (3marks)
- h) Distinguish between renewable and non-renewable marine resources (4marks)

**QUESTION TWO. (20 MARKS)**

What are the impacts of human population on coastal and marine environments? (20marks)

**QUESTION THREE. (20 MARKS)**

- i. Discuss the categories of land tenure. (10marks)
- ii. Discuss the intersecting interests of land tenure. (10marks)

**QUESTION FOUR. (20 MARKS)**

Without the observable price and quantity data that are available when goods or services are traded in the market, economists have devised innovative techniques for measuring changes in value for natural resources and the environment.

- a. Compare the random utility model to the travel cost model. (10marks)
- b. Outline the pros and cons of using the contingent valuation method. (10marks)