

**TECHNICAL UNIVERSITY OF MOMBASA**  
**FACULTY OF APPLIED AND HEALTH SCIENCES**  
**DEPARTMENT OF ENVIRONMENT & HEALTH SCIENCES**  
**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF**  
**SCIENCE IN MARINE RESOURCE**  
**BSMR 14S/YEAR2/ SEMESTER2**  
**AAB 4207: PLANT STRUCTURE AND PHYSIOLOGY**  
**SEMESTER EXAMINATION**  
**SERIES: APRIL/MAY 2016**  
**TIME: 2 HOURS**

*Instructions to Candidates*

This paper consists of FIVE questions

Answer question ONE (COMPULSORY) and any other TWO questions

*This paper consists of two printed pages.*

### **QUESTION ONE (COMPULSORY)**

- a. Define the terms below. 4mks
  - I. Seed germination
  - II. Seed Viability
- b. List TWO germination Inhibitors present in the seed. (2 marks)
- c. Differentiate between Annual, Biennial and perennial plants 3mks
- d. State the six processes of nitrogen cycle 6mks
- e. State 5 differences between C3 and C4 pathways 5mks
- f. List and define two types of plant responses to the environment 4mks
- g. Outline 3 economic importance of the coastal marsh 3mks

### **QUESTION TWO**

Using a well labeled diagram outline the process of the nitrogen cycle 20mks

### **QUESTION THREE**

Discuss the economic importance of the estuarine ecosystem in the coastal region 20 mks

### **QUESTION FOUR**

The cell is the basic unit of life. Discuss Plant cell organelles and their functions. (20 marks)

### **QUESTION FIVE**

Giving examples, elaborate how phytohormones control plant growth and physiology 20mks