



**EMBU UNIVERSITY COLLEGE**  
**(A CONSTITUENT COLLEGE OF THE UNIVERSITY OF NAIROBI)**

**FIRST YEAR EXAMINATION FOR THE DEGREE OF MASTER OF**  
**SCIENCE IN PLANT ECOLOGY**

**SBT 503: PLANT PRODUCTION ECOLOGY**

**DATE: NOVEMBER 28, 2013**

**TIME: 11.00 – 2.00PM**

**INSTRUCTIONS:**

**Answer Question ONE and ANY Other THREE Questions.**

**QUESTION ONE**

- a) Discuss energy flow in an ecosystems (10 marks).
- b) With examples distinguish between chemoautotrophs and photoautotrophs (10 Marks).
- c) Explain the first and the second laws of thermodynamics (5 Marks).

**QUESTION TWO**

- a) Discuss ecosystem primary productivity (15 Marks).
- b) Describe the 4 groups of carnivores (8 Marks).
- c) Distinguish between ordinary herbivores and specialized herbivores (7 Marks)

**QUESTION THREE**

- a) Discuss the importance of canopy structure and its role in light interception in an ecological setup (15 Marks).
- b) Discuss any two procedures that can be used for biomass measurement (10 Marks).

**QUESTION FOUR**

Discuss energy fixation in ecosystems

(25 marks)

**QUESTION FIVE**

- a) Provide a synoptic comparison of above-ground plant biomass productivity in agricultural and natural ecosystems in East Africa (15 Marks).
- b) Discuss biological productivity in the Kenyan grasslands (10 Marks).

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