



# KENYATTA UNIVERSITY

## UNIVERSITY EXAMINATIONS 2010/2011

### SECOND SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN INTEGRATED SOIL FERTILITY MANAGEMENT

#### KRM 511: AGROFORESTRY SYSTEMS

**DATE:** Monday 4<sup>th</sup> April, 2011

**TIME:** 9.00 a.m. – 12.00 p.m.

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#### **INSTRUCTIONS**

*Answer Question ONE and any other THREE questions.*

1. (a) Briefly explain the following; [10 marks]
  - i. Community forestry
  - ii. Improved fallows
  - iii. Agroforestry technology
  - iv. Biomass transfer
  - v. Contour hedgevours
- (b) State and briefly explain the three main attributes of agroforestry. [6 marks]
- (c) Define the following tree management techniques and discuss their importance in enhancing productivity of agroforestry systems.
  - Pruning
  - Lopping
  - Pollarding [10 marks]
- (d) Explain categorization (classification of agroforestry based on broad criteria of function of systems. [4 marks]
2. With examples, explain the main characteristics of an ideal tree species for improving soil fertility. [10 marks]
3. Explain the principles of traditional shifting cultivation that can be applied in developing a sustainable agroforestry system. [10 marks]

4. Compare and contrast nutrient cycling in agricultural system, forest ecosystem and an agroforestry system. [10 marks]
5. a) Explain why component interaction is an important concept in agroforestry. [5 marks]
- b) Discuss where these interactions occur and their net effects. [5 marks]

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