



# MACHAKOS UNIVERSITY

University Examinations For 2018/2019 Academic Year

**SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT**

**DEPARTMENT OF ENVIRONMENTAL SCIENCES**

**THIRD YEAR SECOND SEMESTER EXAMINATION FOR**

**BACHELOR OF ENVIRONMENTAL RESOURCE CONSERVATION**

**ERC 304: AGROFORESTRY SYSTEMS AND PRACTICES**

**DATE: 25/4/2019**

**TIME: 8:30 – 10:30 AM**

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**INSTRUCTIONS: Answer question ONE and TWO other questions**

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

- a) Explain the following terms (2 marks)
  - i) Alley cropping (2 marks)
  - ii) Agro-forestry (2 marks)
  - iii) Coppicing (2 marks)
  - iv) Allelopathy (2 marks)
  - v) Pollarding (2 marks)
- b) State three effects of tree-crop interactions in agro-forestry (3 marks)
- c) Highlight three attributes of agro-forestry systems. (3 marks)
- d) Using example, describe “IDIOTYPE” for an agro-forestry system (4 marks)
- e) Discuss the principle benefits and costs of agro-forestry (10 marks)

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

- a) Explain the significance of agro-forestry in biodiversity conservation (10 marks)
- b) Discuss the role of agro-forestry in land and water management. (10 marks)

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

As an environmental officer working in Machakos County, explain to farmers the agro-forestry technologies you would recommend to farmers.

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

- a) Describe the sequence of steps for designing and successful introduction of agro-forestry Technologies. (10 marks)
- b) Discuss the challenges faced by small scale agro-forestry farmers in East Africa. (10 marks)

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

Discuss the role of agro-forestry in the rehabilitation of degraded lands