JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN PLANT ECOLOGY

1ST YEAR FIRST SEMESTER 2016/2017 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE: **SBT 820**

COURSE TITLE: **RANGELAND ECOLOGY**

EXAM VENUE:

DATE: **EXAM SESSION:**

TIME: 3 HOURS

Instructions:

1. **Answer ALL questions in Section A and Any two questions in Section B**
2. **Candidates are advised not to write on question paper**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room**

SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. Define the following ecological terms (3 marks)
   a) Rangeland
   b) Range management
2. Explain three abiotic factors influencing the use of a range land. (3 marks)
3. List six factors influencing plant response to livestock grazing. (4 marks).
4. Discuss fodder quality in relation to the phenology of grasses (3 marks)
5. Distinguish between head and backfire. (2 marks).
6. List 3 environmental indicators of range quality. (3 marks).
7. Distinguish between emulsion and suspension herbicides used in weed control in a range environment. (3 marks).
8. Briefly discuss three factors influencing the persistence of herbicides in the soils. (3 marks)
9. Explain how forage removal affect plant carbohydrates uptake (3 Marks)
10. Discuss three values of range inventories (3 marks)
11. Define the following terms: a) Grazing capacity b) Range condition (3 marks)

SECTION B: ESSAY QUESTIONS (30 MARKS)

12. Discuss Range succession in Range land. (15 marks)
13. Discuss challenges that have hindered range development in the African savanna. (15 marks)
14. Discuss methods employed to maximize range production. (15 marks).
15. Discuss fire as a management tool in a range environment. (15 marks)