

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examinations 2015/2016**

THIRD YEAR, FIRST SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE IN BIOLOGICAL OPTION,BACHELOR OF SCIENCE IN CROP PROTECTION AND BACHELOR OF EDUCATION SCIENCE

**SBA 3200/SBT 2300: PLANT ECOLOGY**

**DATE: NOVEMBER, 2015 TIME:** $2 $**HOURS**

**INSTRUCTIONS:** *Answer question* ***one COMPULSORY*** *and any other* ***two*** *questions.*

**QUESTION ONE – (30 MARKS)**

1. *Digitaria macroblephera* was found to have a calorific value of 25mj/kg, its net primary production was 5.0 kg/m2/year and solar radiation at the site was 20mj/m2/day . Determine its efficiency of primary production (3 Marks)
2. Outline the factors that govern lateral Zonation of fresh water swamps. (3 Marks)
3. Explain briefly the composition and structure of the upper zone of upland forests.(4 Marks
4. Explain what parameters would you asses to quantitatively describe the structure of a plant community? (4 Marks)
5. Describe what a swamp drawdown is and explain how it influences vegetation composition. (4 Marks)
6. Describe the adpaptive trends in arid zone flora. (6 Marks)
7. Outline the factors that determine the structure of East African grasslands. (6 Marks)

**QUESTION TWO (20 MARKS)**

Discuss approaches of measuring terrestrial primary production. (20 Marks)

**QUESTION THREE (20 MARKS)**

Discuss adaptive trends in afroalpine flora. (20 Marks)

**QUESTION FOUR (20 MARKS)**

Discuss Clements deterministic plant succession theory and its shortcoming. (20 Marks)