



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2014/2015

**FIRST YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF MASTER OF SCIENCE IN GENETICS AND PLANT
BREEDING**

AAG 825: PLANT BREEDING

Date: 14th March, 2014

Time: 9.00 - 12.00 noon



AAG 825 – PLANT BREEDING

SECTION I: Instructions: Answer ALL Questions 1hr 30 min(10 marks each)

- Q1 What is the physiological basis for drought tolerance and disease resistance in crops?
- Q2 Discuss the underlying physiological and/or biochemical basis for yield and quality improvement
- Q3 Discuss the limitations and advantages that may accrue from exploitation of interspecific hybridization in horticultural crop improvement
- Q4 The following is the result of the analysis of variance for a yield trial with various sorghum varieties; Variance due to varieties = 256; variance due to Var x env interaction = 328; variance due to environment = 168 . Compute broad sense heritability for yield in this sorghum germplasm

SECTION II: Answer ANY TWO (2) Questions in this section; (1hr 30 min) 10 marks each

- Q5 Discuss vertical and horizontal resistance in crop plants
- Q6 Provide a comprehensive account of the back-cross selection procedure
- Q7 How would you undertake recurrent selection for yield improvement in maize?