



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2014/2015

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

AAG 809: CYTOGENETICS

Date: 12th March, 2014

Time: 9.00 - 12.00 noon



Instructions: **SECTION I: Answer ALL Questions(10 Marks Each)**

- Q1. Briefly comment on totipotency of cells and its significance for life
- Q2. What significance does one attach to the organization of the hereditary material in chromosomes?
- Q3. When and how does reduction division occur in Meiosis and what is its genetic significance?
- Q4. Compare alternation of generations in simple life forms and in complex organisms such as in angiosperms

SECTION II (Essay Questions) Answer any 2 Questions(20 Marks Each)

- Q5. Briefly discuss chromosomal aberrations that occur in nature and their significance in plants
- Q6. Discuss apomixes and its potential for horticultural crop improvement
- Q7. Discuss polyploidy citing examples of application in plant breeding