



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2015/2016

**FIRST YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF MASTER OF SCIENCE
MAIN CAMPUS**

SBT 801: METHODS AND TECHNIQUES IN BOTANY

Date: 8th December, 2015

Time: 8.30 - 11.30am

INSTRUCTIONS:

- Answer ALL Questions in section A and any THREE selected from section B.



SECTION A: 30 MARKS

1. (a) Discuss density gradient centrifugation (10 marks)
(b) Explain how SDS-PAGE is used in protein gel electrophoresis (5 marks)
2. (a) Distinguish between scanning electron microscopy and transmission electron microscopy (8 marks)
(b) Using diagrams discuss the principles of light microscopy (7 marks)

SECTION B: 30 MARKS

1. Discuss fluorescent probes (10 marks)
2. Explain how you determine concentrations of potassium and calcium in a plant leaf (10marks)
3. Describe the principle behind flow cytometry (10 marks)
4. Discuss the use of radioisotopes in scientific experiments (10 marks)
5. Explain the theory behind psychrometry in water potential measurements (10 marks)