



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2015/2016**

FIRST YEAR SECOND SEMESTER EXAMINATIONS FOR THE  
DEGREE OF MASTER OF SCIENCE IN BOTANY (PLANT  
TAXONOMY AND ECONOMIC BOTANY)

**MAIN CAMPUS**

**SBT 843: BIOCHEMICAL SYSTEMATICS**

Date: 25<sup>th</sup> April, 2016

Time: 8.30 - 11.30 am

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**INSTRUCTIONS:**

- Answer ALL questions in SECTION A and any THREE in SECTION B.

SBT 843: BIOCHEMICAL SYSTEMATICS.

**INSTRUCTIONS**

Attempt All Questions in Section A and Any Three Selected From Section B

**SECTION A [30 MARKS]**

1. a. Distinguish between primary and secondary metabolites in systematics (5mks)  
b. Describe the biosynthesis of Phenolics (5mks)  
c. i). Describe amino acids in relation to their basic structure (2mks)  
c. ii). What is the value of protein and non-protein amino acids in chemosystematics (3mks)
2. a. One goal of systematics is to continuously evaluate available data and use it to remodel taxa. Describe how the following have been used in this pursuit  
i) Iridoids (terpenoids) (4 mks)  
ii) Glucosinolates (2mks)  
b. Describe the occurrence of betalains (4mks)  
c. What are the advantages of using alkaloids in systematics (5mks)

**SECTION B [30 MARKS]**

1. Discuss the classification of alkaloids with respect to their structure (10mks).
2. Discuss five classes of glycosides indicating their use in systematics (10mks).
3. Describe the use of purines and pyrimidines in systematics (10mks).
4. Discuss the distribution of isoprenoids in the plant kingdom (10mks).
5. Discuss the major subgroups of flavonoids (10mks).