

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF MASTER OF SCIENCE
IN MICROBIOLOGY AND BIOTECHNOLOGY

BOTA 801: METHODS AND TECHNIQUES IN BOTANY

STREAMS: MSC (BOTA)

TIME: 3 HOURS

DAY/DATE: MONDAY 15/4/2019

2.30 P.M. – 5.30 P.M.

INSTRUCTIONS:

- Answer any **THREE** questions
- Do not write anything on the question paper

QUESTION 1 (20 MARKS)

- (a) With help of a sketch diagram illustrate function of various components of mass spectrometer. [10 marks]
- (b) Discuss the types of PCR detection chemistries. [6 marks]
- (c) Explain the advantage real-time PCR over traditional PCR. [4 marks]

QUESTION 2 (20 MARKS)

- (a) Schematically draw a high performance liquid chromatography system [10 marks]
- (b) Discuss five applications of Gas Chromatography Mass Spectrometry (GC-MS).

[10 marks]

QUESTION 3 (20 MARKS)

Describe a test that can be used to identify the presence of calcium deposits on cyst fluids

QUESTION 4 (20 MARKS)

- (a) Differentiate transmission electron microscopy (TEM) and scanning electron microscopy (SEM). [10 marks]
- (b) Discuss the performance characteristics of a given statement. [10 marks]
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