
CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS.

**FIRST YEAR EXAMINATION FOR THE DEGREE OF DOCTORATE OF
PHILOSOPHY IN BOTANY**

BOTA 933: PROKARYOTIC MOLECULAR GENETICS

STREAMS: Ph.D (BOTANY)

TIME: 3 HOURS

DAY/DATE: WEDNESDAY 5/12/2018

2.30 P.M - 5.30 P.M.

INSTRUCTIONS:

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

QUESTION ONE: [20 MARKS]

Discuss gene expression in a given prokaryote.

QUESTION TWO: [20 MARKS]

Describe how you can apply genetics to solve a problem in a given community suffering from Vitamin A deficiency.

QUESTION THREE: [20 MARKS]

(a) Discuss how you can use microbes for pollution control in soils.

[10 Marks]

(b) Describe the genetic mechanisms of drug resistance.

[10 Marks]

QUESTION FOUR: [20 MARKS]

Discuss the role of micro-organisms in biological nitrogen fixation.

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