
CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS.

**FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR SCIENCE IN BIOLOGY**

BOTA 437: BACTERIOLOGY AND NEMATOLOGY

STREAMS: BSC (BIO)

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 10/04/2019

11.30 A.M - 1.30 P.M.

INSTRUCTIONS

- Answer ALL Questions in Section A and any other TWO Questions in Section B
- Do not write anything on the question paper

SECTION A: [30 MARKS]

1. Describe methods used in control and prevention of plant bacterial pathogens and diseases. [5 Marks]
2. Identify survival strategies employed by plant parasitic nematodes in evading biotic and abiotic obstacles in their environment. [3 Marks]
3. Outline the functions of virulence and pathogenicity genes in plant pathogenic bacteria. [4 Marks]
4. Outline factors that determine pathogenicity of plant nematodes. [3 Marks]
5. Explain two ways by which bacteria can acquire new genetic information. [4 Marks]
6. Illustrate dispersal mechanisms of plant parasitic nematodes. [4 Marks]
7. Explain mechanisms by which pathogenic bacteria cause disease in plants. [4 Marks]
8. Outline beneficial effects of 'free-living' nematodes to humans. [3 Marks]

SECTION B: [40 MARKS]

9. (a) Discuss strategies that can be used to determine whether an infectious agent is the cause of disease symptoms in plants. [10 Marks]
- (b) Using a well labeled diagram, illustrate the life cycle of Soybean Cyst Nematode. [10 Marks]
10. Discuss the history of phytobacteriology. [20 Marks]
11. (a) Discuss conditions which influence disease development in plants. [12 Marks]
- (b) With the aid of a well labeled diagram, describe the life cycle of Foliar Nematodes. [8 Marks]
-