CHUKA  **UNIVERSITY**

UNIVERSITY EXAMINATIONS

SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE

BOTA 437: BACTERIOLOGY AND NEMATOLOGY

STREAMS: (Y4 S2)

TIME: 2 HOURS

DAY/DATE : WEDNESDAY 22 /09/ 2021 **8.30 AM – 10.30 AM**

INSTRUCTIONS TO CANDIDATES:

- Answer All questions in SECTION A and any TWO in SECTION B
- Do not write anything on the question paper
- Answer each question on a fresh page

SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. Fill in the table below with the right disease or the causal pathogen. [5 Marks]

	Name of the disease	Causal organism
a.	Toppling disease of banana	……..
b.	……..	*Erwinia carotovora*
c.	Root galling / knots	……..
d.	……..	*Agrobacterium* tumefaciens
e.	Bacterial wilt disease	……

2. Describe the process of isolating bacterial pathogen from a diseased plant material.

[5 Marks]

3. Using a labeled diagram indicate five features used in identification of plant parasitic nematodes. [5 Marks]

4. a. Define bacterial plasmid? [1 Mark]

   b. Describe four processes that leads to genetic variability among bacteria .

   [4 Marks]

5. a. Name two unique characteristics of Streptomyces bacteria. [2 Marks]

   b. Outline three ways by which plant parasitic bacterial induce plant disease.

   [3 Marks]

6. a) Differentiate between migratory and sedentary endoparasitic nematodes.

   [1 Mark]

   b) Explain how sedentary endoparasitic nematodes are adapted to their parasitic mode of life. [4 Marks]

SECTION B: ESSAY QUESTIONS (40 MARKS)

7. Discuss the interaction between plant nematode and other disease causing agents.

   [20 Marks]

8. Discuss the integrated management of nematode diseases. [20 Marks]

9. Discuss the Southern Bacterial Wilt of Solanaceous plants. [20 Marks]

……..