CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN BIOLOGY AND BACHELOR OF SCIENCE IN MATHEMATICS AND CHEMISTRY

BOTA 453: PLANT PATHOLOGY

STREAMS: BSC BIO& MATH CHEM   **TIME: 2 HOURS**

DAY/DATE: FRIDAY 06/12/2019   **11.30 A.M. – 1.30 P.M.**

INSTRUCTIONS:
- **This paper has two sections A and B**
- **Section A accounts for 30 marks while section B accounts for 40 marks**
- **Section A is compulsory**
- **Answer any two questions in section B**

SECTION A

1.   (a)   Describe the functions of a healthy plant. For each function give an example of
the   part involved.   (5 marks)

      (b)   Describe disease classification approaches.   (5 marks)

2.   Describe the following terms as used in plant pathology

             (a)   Plant disease   (2 marks)
             (b)   Pathogenesis   (2 marks)
             (c)   Hyperplasia   (2 marks)
             (d)   Hypoplasia   (2 marks)

3.   Explain the scientific basis for plant pathology being referred as the study of a suffering
      plant.   (2 marks)

4.   Explain how unknown plant disease is diagnosed.   (6 marks)

5.   Outline sources of inoculum of plant diseases.   (4 marks)

SECTION B

6.   Discuss haloblight of beans under the following sub-headings

         (a)   Symptoms   (4 marks)
         (b)   Disease development   (6 marks)
         (c)   Dispersal   (5 marks)
         (d)   Survival   (5 marks)

7.   (a)   Explain how legislation and regulation can be used to control plant diseases.
                                                                            (5 marks)
         (b)   Discuss plant defense mechanisms against plant pathogens.   (5 marks)

8.   (a)   Briefly describe disease triangle.   (5 marks)

         (b)   Discuss effects of plant pathogens on plant function.   (15 marks)