

**W1-2-60-1-6**

## JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

**UNIVERSITY EXAMINATIONS 2018/2019**

**YEAR 3 SEMESTER 1 SPECIAL/SUPPLEMENTARY EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN HORTICULTURE, AGRICULTURE AND ENVIRONMENTAL**

**HHS 2303: PLANT PATHOLOGY**

**DATE: JUNE 2019 TIME: 2 HOURS**

**INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER TWO TOTAL MARKS 70**

QUESTION ONE (30 MARKS)

1. Write brief notes on the following:
2. Monocylic and polycyclic diseases (2 marks)
3. Pathogenesis (2 marks)
4. Virulence (2 marks)
5. Predisposition factors for disease (2 marks)
6. Saprophytic and Necrotrophic pathogens (2 marks)
7. Describe the disease triangle concept (5 marks)
8. Briefly describe the following as used in disease diagnosis and management.
9. Serial dilution (2 marks)
10. Quarantine (2 marks)
11. Resistant cultivars (2 marks)
12. Fungicide resistance (2 marks)
13. Genetic engineering (2 marks)
14. Conditions that favour plant growth and health commonly favour plant pathogens, explain(5 marks)

QUESTION TWO (20 MARKS)

1. Mr. Taxler an investor consults your on a notorious soil borne pathogen attaching his tomatoes in the field. With an example of a disease of your choice outline the appropriate disease diagnosis procedure you would advise Mr. Taxler (10 marks)
2. Symptomatology referring to the study of reactions of the host to a disturbance by insect, disease, environmental factor is essential in plant disease diagnosis. Giving examples, describe different disease symptoms with relevance to horticultural crops (10 marks)

QUESTION THREE (20 MARKS)

Describe the typical processes involved during infection of plants by a virulent fungal pathogens (20 marks)

QUESTION FOUR (20 MARKS)

Describe the following techniques in laboratory diagnosis of plant pathogens.

1. Polymerase chain reaction PCR (5 marks)
2. Enzyme-linked immunosorbent Assay (ELISA) (5 marks)
3. Immunoflourescence (IF) (5 marks)
4. Agar-plate method (5 marks)