

UNIVERSITY EXAMINATIONS FOR THE AWARD OF THE DEGREE OF
BACHELOR OF SCIENCE IN DRYLAND AGRICULTURE
2021/2022 ACADEMIC YEAR
MAY SEMESTER 2022

UNIT CODE: LADM 3214

UNIT TITLE: CROP PATHOLOGY

DATE: JULY 2022

TIME: 2 HOURS

INSTRUCTIONS

1. Answer question one and any other two questions
2. Do not write anything on this question paper
3. Do not write in the page margins of the answer booklet
4. Begin each question answer on a new page

QUESTION 1 (COMPULSORY) (30 MARKS)

- a) Define the following terms as used in crop pathology:
 - i. Inoculum (1 marks)
 - ii. Pathogenesis (1 marks)
 - iii. Susceptibility (1 marks)
- b) With the current advancements in agricultural research, name the components of integrated plant disease management (IPDM). (6 marks)
- c) Describe the physiological activities of a plant before inoculation. (5 marks)
- d) Plant diseases can be classified into various categories, name four major categories giving examples of each. (8 marks)
- e) Explain the necessity of acquiring knowledge on plant diseases as a crop pathologist. (8 marks)

QUESTION 2 (20 MARKS)

- a) Differentiate the following terms as an expert in crop pathology:
- i. Signs and symptoms (1 marks)
 - ii. Pathogenesis and pathogenicity (1 marks)
 - iii. Alternate host and collateral host (1 marks)
- b) Name and discuss the key principles you would give a farmer on disease management. (10 marks)
- c) From your understanding of crop pathology, how do pathogens affect the host plant? (4 marks)

QUESTION 3 (20 MARKS)

- a) As a crop pathologist, describe how a farmer would prepare their natural pesticide for plant eating insects. (5 marks)
- b) As a crop pathologist, discuss how a farmer can identify Downey mildew as compared to any other disease. (5 marks)
- c) The environment is a key component in disease development, name and explain five key environmental factors affecting disease development. (10 marks)

QUESTION 4 (20 MARKS)

- a) Discuss ways in which a farmer can eliminate the primary and secondary sources of inoculum a pathogen from their farm in relation to your knowledge of crop pathology. (10 marks)
- b) The understanding of the different stages of pathogen development is crucial in the management of plant diseases; discuss the stages of plant disease development. (10 marks)

QUESTION 5 (20 MARKS)

- a) With the aid of a diagram, name and explain the factors affecting the successful development of a disease. (8 marks)
- b) Discuss five different ways in which human beings aid in the dispersal of plant pathogens. (10 marks)
- c) Describe the physical method of controlling insect pests, case study of fruit fly. (2 marks)