

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI  
 SCHOOL OF AGRICULTURE AND AGRICULTURAL TECHNOLOGY  
 DEPARTMENT OF CROP SCIENCE AND TECHNOLOGY

SEMESTER: HARMATTAN SESSION: 2015/2016. TIME: 3 HRS  
 COURSE TITLE: CROP DISEASES AND THEIR CONTROL  
 COURSE CODE: CST 301  
 INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS

1. a. Define the following
  - i. Infection ii. Pathogen iii. Syndrome iv. Symptom v. Sign vi. Inoculum
  - b. All pathogens are parasites but not all parasites are pathogens. Discuss.
2. a. Briefly discuss the environmental factors necessary for the growth of fungi
  - b. Enumerate five (5) characteristics of the Ultrastructure of a fungal cell
  - c. Briefly discuss the role of fungi in the decaying process of plants and animals and its relationship with other plants
3. a. Fusarium wilt is a serious disease of *Lycopersicon esculentum*. Discuss this problem under the following:
  - i. Transmission and spread ii. Symptoms and damage iii. Prevention and control.
4. a. Define the following:
  - i. Virion ii. Capsid iii. Viroid iv. Viral indexing v. Disease diagnosis
  - b. i. Discuss the economic importance of Bacteria
  - ii. Outline the basic characteristics used for the classification of all viruses
  - c. i. Differentiate between disease control and disease management strategies
  - ii. What do you understand by extracellular and intracellular pathogens?
5. a. Under the following headings, describe the Bacterial soft rot of pepper (Chillies)
  - i. Causal Organism ii. Symptoms iii. Conditions for development iv. Management
  - b. i. What do you understand by the term 'Rouging' ii. How does the hygiene in a field affect the spread of disease during harvest of fruits and vegetables?

Causal organism → Erwinia carotovora  
 Symptoms → darkened veins followed by leaf chlorosis and necrosis  
 The nearby stem may show internal dark brown discoloration.  
 Management → drainage water, sprinkler irrigation, but a ground is necessary for infection to occur.  
 Avoid crises from rough handling, during weeding, or due to strong wind or from insect feeding.  
 High rate of nitrogen fertilization leads to increased susceptibility.  
 Early detection of symptoms, the destruction of weeds and picking basket, careful weeding  
 Collection and harvesting of important to minimize fruit damage.

Penetration is through susceptible and this is the point of infection.

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 DEPARTMENT OF CROP SCIENCE AND TECHNOLOGY  
 2017/2018 HARMAFTAN SEMESTER EXAMINATIONS

COURSE TITLE: CROP DISEASES AND THEIR CONTROL  
 COURSE CODE: CST 301  
 TIME ALLOWED: 3 HOURS  
 INSTRUCTION: ANSWER ANY FIVE (5) QUESTIONS

1. (a) Differentiate between a healthy and a diseased plant.  
 (b) State the following terms and concepts used in plant pathology:  
 (i) Disorder (ii) Pathogen (iii) Inoculum (iv) Epidemic (v) Infection
2. (a) Briefly explain three (3) features of fungal mycelium.  
 (b) Briefly discuss five (5) environmental factors necessary for fungal growth.  
 (c) Briefly discuss the important role fungus has played as a saprophyte in agriculture
3. Fusarium wilt is a serious disease of *Lycopersicon esculentum*. Discuss this problem under the following: (i) Transmission and spread (ii) Symptoms and damage (iii) Prevention and control
4. Write short notes on the following:  
 (a) Characteristics of bacteria (b) Classification of bacteria (c) Economic importance of bacteria
5. (a) Describe the bacterial soft rot of pepper (chillies) under the following headings:  
 (i) Causal organism (ii) Symptoms (iii) Conditions for development (iv) Management  
 (b) How does hygiene in a field affect the spread of disease after harvest of fruits and vegetables?
6. (a) Define a Virus according to Matthews (1981) and state the advantages of early viral indexing.  
 (b) What do you understand by diagnosis and state the merits and demerits of the two methods of diagnosis.  
 (c) Define the following terms:  
 (i) Primers (ii) Oligonucleotide (iii) ELISA

- Lack chlorophyll
- have exo-skeleton called chitin
- Symbiotic relationship.

Eubacteria } Forms  
 Archaeobacteria }

disease causing orgo such as bac. P. n. etc. found in  
 Sewage etc off

Inv... body of ...

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HARMATTAN SEMESTER EXAMINATION

Course code: CST 301

Session: 2019/2020

Title: Crop Diseases and their control

Date: 17<sup>th</sup> February 2021

**Time allowed: 3 hours.**

**Instructions: Answer five (5) Questions only. Each question carries 14 marks**

1(a) Briefly explain, fungi in relation to the following (i) Temperature (ii) Ph (iii) Light (iv) Oxygen requirement.

(b) Fungi are achlorophyllous. Briefly explain the three (3) methods by which they are known to obtain their food from both living and non-living organisms.

2. Cassava bacterial blight is an important disease of cassava; (i) State the causal organism of this disease (ii) Outline at least five symptoms of the disease (iii) Suggest ways of combating the disease.

3(a) With the aid of a well labeled diagram, describe the growth curve of a typical bacterial cell. (b) What are mycoplasma-like organisms. (c) State the morphological features of Mycoplasmas that distinguish them from most other organisms.

~~From~~ *Erwinia carotovora*

4. Discuss the Bacterial soft rot of chilli pepper under the following headings: (i) Botanical name of causal agent. (ii) Four (4) symptoms (iii) Four management practices.

5(a) Define a Virus according to Matthews (1981) and state the advantages of early viral indexing. (b) What do you understand by diagnosis and state the merits and demerits of the two methods of diagnosis.

6(a) Anthracnose of chilli pepper is caused by -----

(b) Give two (2) management practices for the disease.

7a Differentiate between a healthy and a diseased plant and outline six (6) physiological activities of a healthy plant.

b. Write short notes on the following concepts in plant pathology

(i) Disorder (ii) Pathogen (iii) Symptom (iv) Inoculum (v) Epiphytic disease (vi) Infection

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CST 301

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HARMATTAN SEMESTER EXAMINATION

Course code: CST 301

Session: 2018/2019

Time allowed: 3 hrs.

Title: Crop Diseases and their Control

Date: 14<sup>th</sup> June 2019

Instructions: Answer any five Question.

1. Differentiate between the following: (a) Healthy and diseased plant (b) A parasite and a pathogen (c) Disease and disorder (d) Epidemic and endemic disease.
2. (a) Briefly explain the following structural features of a fungal organism (i) Haustorium (ii) Septate hyphae (iii) Mycelium (iv) Vegetative mycelium  
(b) Briefly discuss reproduction in fungus  
(c) From the classification of fungi proposed by G.C. Ainsworth (1975) and J. Webster (1980), diagrammatically show the following: (i) Division of fungi (ii) The classes of one division.
3. Describe the Anthracnose disease of mangoes under the following headings: (i) Biological name of plant (ii) Causal organism of disease (iii) Two (2) observable symptoms (iv) Two (2) conditions for development (v) Two (2) management practices.
4. (a) State conventionally the causative agents of the following crop diseases (i) African cassava mosaic disease (ii) Stalk and ear rot (iii) Maize rust (iv) Cassava bacterial blight (v) Corn smut.  
(b) With a well – labelled diagram, discuss the transmission and spread of corn smut.
5. (a) State the characteristics of bacteria  
(b) Write short notes on the following structures of bacteria (i) Cytoplasmic membrane (ii) Mesosomes (iii) Structure of cell wall (iv) Flagella  
(c) State two beneficial and two harmful activities of bacteria
6. (a) Define a virus and briefly describe its morphology and structure  
(b) What is the meaning of disease diagnosis and briefly explain the two methods of diagnosing a diseased plant.  
(c) Discuss extensively the economic importance of plant viruses in crop production.

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