

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI
 SCHOOL OF AGRICULTURE AND AGRICULTURAL TECHNOLOGY
 DEPARTMENT OF CROP SCIENCE AND TECHNOLOGY
 2016/2017 HARMATTAN SEMESTER EXAMINATIONS

COURSE TITLE: CROP DISEASES AND THEIR CONTROL

COURSE CODE: CST 301

TIME ALLOWED: 3 HOURS

INSTRUCTION: ANSWER FIVE QUESTIONS, AT LEAST ONE FROM EACH SECTION

SECTION A

SECTION A

1. Write short notes on the following:

- (a) Pathogen (b) Pathogenicity (c) Disorder (d) Inoculum (e) Biotroph (f) Systemic infection (g) Epiphytotic
- Ability of pathogens to invade disease*
This is a non infectious plant disease due to abiotic causes such as adverse soils and environmental conditions
Small part of epiphytotic which causes disease to a susceptible host when it comes in contact with it
Organism that lives and multiplies only on other living organisms
affects all parts of host organism

Briefly distinguish between the following terms:

- (i) Septate and non-septate hypha (ii) Intercellular mycelium and intracellular mycelium (iii) Vegetative mycelium and reproductive mycelium
- This is when a mycelium penetrates into the cell.*
This is when a mycelium penetrates between the cell.
This is when the mycelium remains inside the substrate.
This is the part that extends into the air and its responsible for spore production.

3(a) What are Bacteria?

(b) With the aid of a diagram describe the growth curve of a typical Bacteria cell.



4. (a) What are Mycoplasma-like organisms?

(b) What are the morphological features of mycoplasmas that distinguish them from most other organisms?

- They lack cell walls around their cell membrane.*
They lack cell wall
They are resistant to many common antibiotics
They can be parasitic or saprotrophic
They reproduce sexually or asexually.

SECTION C

5. Discuss Rice blast under the following subtitles: (i) Transmission and spread (ii) Symptoms and damage (iii) Prevention and control

6. (a) Describe one (1) named disease of Mango (*Mangifera indica*), stating the following:

- (i) Causal organism (ii) Symptoms (iii) Conditions for development (iv) Control strategies
- Bipolaris natalensis*
Black circular patches on the plant
PH of 80%, temp max 31.5 min 2.9
Good mgt of farm implement
dis infect the storage rooms
Use resistance varieties
Avoid high temp

(b) (i) Give the common name for the disease caused by *Erwinia carotovora* (ii) Hot water can be used to control the ... disease of mango (iii) The ... is the most susceptible and initial point of infection in chilli pepper (iv) The removal of diseased plants during inspection in the field is termed as ...

- Post-harvest*
soft rot
Bacterial
Prognosis
toplasma

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Course code: CST 301;

Title: Crop Diseases and their Control

Session: 2018/2019

Date: 14th June 2019

Time allowed: 3 hrs.

Instructions: Answer any five Question.

Scj Harmful activities

* They reduce soil fertility

* They reduce cause plant disease

Beneficial activities

* manufacturing Antibiotics

* They help in Plant growth

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
Under metabolism bacteria have sources of antibiotic fermenter
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.