

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

**RAIN SEMESTER 2015/2016 EXAMINATION**

**COURSE TITLE: PLANT PATHOLOGY II**

**COURSE CODE: CST 512**

Answer all questions; each question carries 16 marks.

Time: 3 hrs

- 1a. With diagrams discuss 'Disease Pyramid'; and list and discuss the essential components for an epiphytotic.
- b. Discuss the effect of time and humans on disease development.
- 2a. Briefly explain how the destruction of crop residues is practised to reduce the levels of inoculum of plant pathogens.
- b. Briefly explain how the use of calcium and nitrogen fertilizer has mixed effects on plant diseases.
- 3a. What is disease assessment? Differentiate between disease incidence and disease severity.
- b. The disease 'key' shows characteristics that best describes different types of diseases. List five different types of plant diseases you know, giving vital identification tips.
- 4a. What do you understand by the term, 'impact of ecology on plant diseases'?
- b. Describe the influences of temperature on five named crop diseases you have studied.
- c. Enumerate ten (10) ways wind can influence crop diseases.
5. The table below represents the injury/severity and crop damage caused by cassava mosaic virus. Use the information to answer the following questions:

Injury/Severity	1.0	2.0	3.0	4.0	5.0
Crop damage (ton/ha)	4.5	7.2	15.3	25.7	39.6

- (i) Plot the Injury (severity) / damage function.
- (ii) From your graph, estimate the damage coefficient.
- (iii) If the price of cassava tubers is #16,000/ton, estimate the monetary loss/hectare.
- (iv) Estimate the economic damage threshold if the cost of controlling this pathogen #50,000/hectare.