OLABISI ONABANJO UNIVERSITY

P.M.B. 2002, AGO IWOYE, OGUN STATE, NIGERIA
DEPARTMENT OF MICROBIOLOGY

2018/2019 HARMATTAN SEMESTER EXAMINATION

MCB 413:Plant Virology

Date:26/04/2019

INSTRUCTION: Attempt Two Questions each from Sections A and B **Time: 2hrs**

SECTION A

1. a. Viruses are conditional living things. Discuss
   b. Write on the composition and the functions of the various components of plant viruses.
   c. Describe one procedure that could be used to cultivate plant viruses

2. In cowpea field, the plants were seen showing mosaic symptoms, and it was noted that the vector transmitting the pathogen was aphid. Suppose the disease is a virus infection, describe the steps that you would adopt to establish the pathogenicity of the causal organism.

3, Distinguish between the following
   a. Persistent and non-persistent mode of transmission
   b. Acquisition feeding period and inoculation feeding period
   c. Viruses and viroids

SECTION B

4a. Highlight the stages involved in the replication of a named virus in its host plant
   b. State the functions of the under listed proteins formed by the above named virus in the plant infected: (i) replication proteins (ii) structural proteins (iii) movement proteins
   c. Explain the process involved in the successful colonization and infection of the host plant by this virus

5a. Discuss Cassava mosaic disease under the following headings:
   (i) Causative agent (ii) Host plant (iii) Mode of transmission (iv) Symptoms (v) Prevention and control.
   b. What are the etiological agents of Cocoa swollen disease ?
   c. Write concisely on the structure of Tobacco mosaic virus

6a. Stating the advantages and limitations, write concisely on the use of the following methods for detection of plant viruses : (I) Symptoms (ii) Electron Microscopy (iii). Precipitation and Agglutination tests
   b. State the advantages immunosorbent electron microscopy (ISEM) has over the use of electron microscope