THE OPEN UNIVERSITY OF SRI LANKA

B.Sc. DEGREE PROGRAMME

BOTANY- LEVEL 05

BOU3101/ BOE5101 – PLANT PATHOLOGY

ASSESSMENT TEST I (OPEN BOOK TEST)

DURATION: ONE (01) HOUR

Date: 09th April 2016

Time: 10.30-11.30 am

Registration No:................

Answer **ALL the** question in the space provided.

Part I

Give the most **appropriate term/ answer** for the following

1. Diseases where there is only one single disease cycle with the primary inoculum during one growing season -
   ....

2. Symptoms characteristically causing rapid death of entire leaves including veins or parts of the leaf-
   ....

3. First experimental proof of the infectious nature of virus diseases was not obtained until 19th century. However a scientists named .... demonstrated that the tobacco mosaic is caused by an 'organism' smaller then bacteria in same century.

4. The rust fungus that caused an epidemic which destroyed coffee plantations in Sri Lanka -
   ....

5. Which causes red rust disease in tea, coffee and mango in Sri Lanka?
   ....

6. Projections of hyphae into host cells which acts as on absorbing organ -
   ....

7. Part of a pathogen which is capable of initiating a new infection -

   ....

8. Progressive increase in the incidence or occurrence of a particular disease within a definite population at a particular time -

   ....

9. Sequence of processes in the development of a disease -

   ....

10. One of two kinds of plants on which a parasitic rusts must develop to complete its life cycle -

    ....

11. When host cultivar exhibits resistance equally to all races of pathogen; often polygenic -

    ....

Question 12 to 15 - Indicate Ture or False (T/F)

12. All pathogens are parasites but all parasites are not pathogens ....

13. Hypertrophy is excessive growth due to the enlargement of individual cells.................

14. Obligate parasites grow and multiply in artificial medium..

15. A pathogen which kills the host cells and eventually lives on the dead cells remains are called necrotrophs ....

16. The genus of plant pathogenic bacteria that has a gram positive rod shaped structures

    ....

17. A type of nematodes that do not enter the plant tissue but feed from outside

    ....

18. What symptom is caused due to loss of turgor on plant tissues?

    ....

19. Name the organism which secrete Victorin -

    ....

20. Name the organism which causes crown gall disease -

    ....

(20 x 2 marks)

2

Part II

01. A. write the **basic steps** to demonstrate and **test Koch's postulates**

....

....

....

....

....

....

....

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....

B. Can you apply Koch postulate to obligate pathogens? **(Yes/No) Write down the reason for your answer**

....

....

(10 marks)

02. What is the **gene- for gene hypothesis?**

....

....

....

....

....

....

(8 marks)

03. What are the two main functions carried out by cell wall degrading enzymes during disease development?

....

....

....

....

(6 marks)

04. Name a bacterial pathogens which penetrates the host plant through extra-floral nectaries

....

(5 marks)

3

05. Name a pathogen which colonizes the host plant in the sub-cuticular tissues

....

(5 marks)

06. Why are postharvest fungicides limited?

....

....

(4 marks)

07. Give the genus of a nematode which transmits polyhedral viruses

....

(5 marks)

08. What are balloon-like intrusions formed after the pathogen infection and their functions?

....

....

(2 marks)

09. Give an example of a bacterium used successfully in biological control of disease

....

....

....

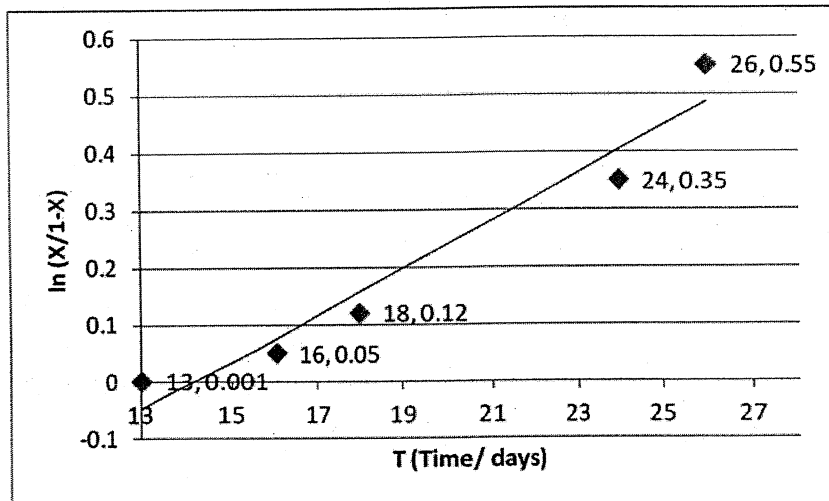..

(5 marks)

10. A plant pathologist monitored a potato late blight epidemic. He collected the data from infected leaves from a crop and plotted the graph ln(X/1-X) against time:

ln (X/1-X)	t
0.001	13
0.05	16
0.12	18
0.35	24
0.55	26

He found that the infectious period was 13 days. What was the infection Rate over the 26 days he rated the disease progress? (Show the calculation)

....

....

....

....

....

(10 marks)