

THE OPEN UNIVERSITY OF SRI LANKA

B.Sc. DEGREE PROGRAMME - BOTANY - LEVEL 05

BTU3110 – PLANT PATHOLOGY II

ASSESSMENT TEST – I

OPEN BOOK TEST

DURATION : ONE (01) HOUR



DATE : 24<sup>th</sup> February 2011

TIME: 4.00p.m.-5.00p.m.

Registration No.....

ANSWER ALL QUESTIONS IN THE SPACE PROVIDED.

01. Briefly describe the following terms and explain how these affect spore germination.

(a) Soil fungistasis

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(b) Effect of rhizosphere.

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(10 marks)

02. (a) What is meant by host penetration?

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.....

(b) In what ways do fungal pathogens penetrate host tissue?

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.....  
.....

(c) What is meant by infection?

.....  
.....

- (d) What stage/s follow/s infection during disease development?

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(15 marks)

03. (a) What are the three (03) main types of chemical substances secreted by pathogens to overcome host resistance?

- i. ....
- ii. ....
- iii. ....

- (b) Explain the effect of each of these chemical substances on host plant tissue.

- i. ....  
.....  
.....
- ii. ....  
.....  
.....  
.....
- iii. ....  
.....  
.....  
.....

- (c) Which one of these substances most influence the development of the following diseases?

- i. Viral mosaics - .....
- ii. Crown galls - .....
- iii. Anthracnoses - .....

(24 marks)

04. (a) Draw a graph representing respiration ( $O_2$  uptake) versus time (days after inoculation) for plant tissue of a resistant cultivars and a susceptible cultivar inoculated with a neorotrophic, sporulating pathogen and the uninoculated healthy plant tissue (at least three lines are expected).

- (b) Explain and discuss your graph.

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(20 marks)

05. Invasion of fungal pathogens are know to increase resistance to water flow due to different types of physical blockages obstructing the vascular system.

- (a) Describe the types of visible symptoms which appear on plants due to this effect.

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(b) Give four (04) reasons for such blockages.

- i. ....  
.....
- ii. ....  
.....  
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- iii. ....  
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- iv. ....  
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(16 marks)

06. For each of the environmental factors given below, state the event/stage that is most affected during disease development.

Give reasons for your answer.

- (a) Wind - .....  
.....  
.....
- (b) Moisture - .....  
.....  
.....
- (c) Host plant nutrition - .....  
.....  
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(15 marks)