THE OPEN UNIVERSITY OF SRI LANKA

B.Sc. DEGREE PROGRAMME - BOTANY - LEVEL 05

FINAL EXAMINATION – 2009/2010

BTU3110 - PLANT PATHOLOGY II

DURATION : TWO AND A HALF (2 ½) HOURS

DATE : 16th July 2010 **TIME : 9.30 a.m. – 12.00 noon**

ANSWER ANY FOUR (04) OF THE FOLLOWING QUESTIONS.

ILLUSTRATE YOUR ANSWERS WITH FULLY LABELLED DIAGRAMS WHEREVER NECESSARY.

01. Briefly describe the following:
   (a) Rhizosphere effect on spore germination.

   (b) Role of elicitors in hypersensitive response.

   (c) Role of IAA in disease development.

02. (a) What is breeding for resistance and why is it a complicated task?

   (b) What classical techniques are used by plant breeders to produce disease resistant plants?

   (c) How can tissue culture and genetic engineering be helpful in breeding for resistance?

03. (a) What are the environmental factors which affect disease development?

   (b) Select the two(02) most important factors and describe how each of these environmental factors affects disease development, mentioning suitable examples for each factor.

04. (a) What are monocyclic diseases and polycyclic diseases? Giving suitable examples, briefly comment on the kind of reproductive cycle you would expect for each of these types.

(b) Draw the characteristic disease-progress curve for a monocyclic disease and a polycyclic disease and describe the information they reveal.

(c) Recommend suitable management practices to control the two types of disease. Give reasons for your answer.

05. (a) What are protectant fungicides and systemic fungicides? Give the characteristic features for each.

(b) State two (02) chemical groups for each type of fungicide giving one (01) commonly marketed example for each group.

(c) Explain how pathogens develop resistance to protective and systemic fungicides.

(d) What measures can be taken to avoid or reduce this problem of resistance building?

06. (a) Define the terms disease incidence, disease severity and yield loss.

(b) Describe how these parameters are measured and expressed.

(c) Of what use are they in epidemiological studies.