THE OPEN UNIVERSITY OF SRI LANKA

B.Sc. DEGREE PROGRAMME - BOTANY - LEVEL 05

FINAL EXAMINATION – 2011/2012

BTU3110 - PLANT PATHOLOGY II

DURATION : TWO (02) HOURS

DATE : 18th January 2012 **TIME : 9.30 a.m. – 11.30 a.m.**

ANSWER ANY FOUR (04) OF THE FOLLOWING QUESTIONS.

ILLUSTRATE YOUR ANSWERS WITH FULLY LABELLED DIAGRAMS WHEREVER NECESSARY.

01. a. Describe the nature of the pectic component in the plant cell wall.

b. Explain the mode of action of the two main types of chain-splitting enzymes which break up pectic substances in plants.

c. What role do these enzymes play in disease initiation and development?

02. a. What is hypersensitive response?

b. Briefly explain the genetics of resistance through hypersensitive response.

c. Outline the mechanism by which R genes are thought to confer resistance to disease.

03. a. What is an epidemic?

b. What components affect the development of an epidemic and what factors influence each of these components?

c. Briefly describe the different methods available to measure disease.

04. a. What are the mechanisms by which plant pathogens are found to develop resistance to fungicides?

b. Why do plant pathogens develop resistance more easily to systemic fungicides than to protectant fungicides?

c. What control measures would you suggest to overcome this problem of resistance development to systemic fungicides?

05. Write short notes on the following:

a. Soil fungistasis
b. Host-specific toxins
c. True resistance in plants

06. Giving suitable examples, describe how biological control practices have been successfully used for the direct protection of plants from pathogens.