

THE OPEN UNIVERSITY OF SRI LANKA

B.Sc. DEGREE PROGRAMME - BOTANY - LEVEL 5/6

FINAL EXAMINATION - 2013/2014

BOU4110 - ADVANCED PLANT PATHOLOGY

BTU3110/BTE5110 - PLANT PATHOLOGY II



DURATION: TWO (02) HOURS

DATE: 04th December 2014

TIME: 1.30 p.m. – 3.30 p.m.

ANSWER ANY FOUR (04) OF THE FOLLOWING QUESTIONS.

ILLUSTRATE YOUR ANSWERS WITH FULLY LABELED DIAGRAMS WHEREVER NECESSARY.

1. (a) What are the three (03) most important groups of pathogen-secreted chemical substances which assist host plant attack?

(b) Describe the effect of each of these groups of chemical substances on disease development.

2. Explain the influence of pathogen factors on the development of the following symptoms:
 - (a) Changes of leaf colour with viral infections.
 - (b) Club formation on crucifers.
 - (c) Resistance to water flow in fungal infections of xylem tissue.

3. (a) What is an epidemic?

(b) What are the main components which affect plant disease epidemics?

(c) Giving the different factors which influence each of these components, explain how these affect the development of an epidemic.

4. (a) What is hypersensitive response?
(b) How is this response genetically explained?
(c) Outline the mechanism which is thought to take place during this process.
5. Write a short account on:
(a) Commercial use of microbes in biological control of plant diseases.
(b) Chemical control of postharvest diseases.
6. (a) Describe the nature of the pectic component of the cell wall.
(b) Briefly describe the mode of action of the two types of chain-splitting enzymes which break up pectic substances in the cell wall.
(c) What effect do these enzymes have on disease initiation and development?

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