

THE OPEN UNIVERSITY OF SRI LANKA  
B.Sc. DEGREE PROGRAMME - BOTANY - LEVEL 05  
FINAL EXAMINATION - 2007/2008  
BTU3110 - PLANT PATHOLOGY II



022

DURATION : TWO AND A HALF (2 ½) HOURS

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DATE : 03<sup>rd</sup> July 2008

TIME : 10.00 a.m. - 12.30 p.m.

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ANSWER ANY FOUR (04) OF THE FOLLOWING QUESTIONS.

ILLUSTRATE YOUR ANSWERS WITH FULLY LABELLED DIAGRAMS WHEREVER NECESSARY.

01.
  - a) Briefly describe the nature of pectic substances and the role they play in the structure and composition of the plant cell wall.
  - b) How are pectolytic enzymes classed into different groups?
  - c) Describe the mode of action of the two types of chain-splitting pectolytic enzymes.
  - d) What effect do these enzymes have on disease initiation and development?
  
02. Give a concise account of any two (02) of the following:
  - a) Measurement of disease incidence, disease severity and yield loss and the use of these measurements in epidemiological studies.
  - b) Methods of application of chemicals in direct control of plant disease.
  - c) Use of cultural methods in plant disease control.
  
03.
  - a) What symptoms are most visible in plants diseased due to adverse effects on water transport?
  - b) Describe the different host factors and pathogen factors which contribute towards the establishment of these symptoms.

04. Describe the following:
- a) Role of elicitors in hypersensitive response.
  - b) Role of auxins in disease development.
05. a) What are disease progress curves?
- b) What information may be revealed by the point of origin and the shape of a disease progress curve?
  - c) Draw the characteristic disease progress curves expected for a monocyclic disease and a polycyclic disease.
  - d) When would you expect to obtain a polymodal type of disease progress curve?
06. Write short notes on the following:
- a) Development of resistance to chemicals in pathogens.
  - b) Effect of environment on disease development.
  - c) Classical techniques in breeding for resistance.

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