

THE OPEN UNIVERSITY OF SRI LANKA
B.Sc. DEGREE PROGRAMME - BOTANY - LEVEL 05
FINAL EXAMINATION – 2008/2009
BTU 3102/BTE 5102 – PLANT PATHOLOGY I
DURATION : TWO AND A HALF (2 ½) HOURS



DATE : 06th January 2009

TIME: 9.30 a.m. – 12.00 noon

ANSWER ANY FOUR (04) OF THE FOLLOWING QUESTIONS.

ILLUSTRATE YOUR ANSWER WITH FULLY LABELLED DIAGRAMS WHEREVER NECESSARY.

01. Differentiate between the following:
 - a) Biotrophs and necrotrophs.
 - b) Microcyclic rusts and macrocyclic rusts.
 - c) Simple interest diseases and compound interest diseases.

02. Giving examples, write a concise account of the different types of morphological symptoms observed among plant diseases.

03.
 - a) State three (03) economically important diseases of potato (*Solanum tuberosum*) commonly found in Sri Lanka.
 - b) For each of the diseases you mention in (a):
 - i. Name the causative organism.
 - ii. Describe diagnostic symptoms.
 - c) For any one (01) of the diseases you describe above:
 - i. Classify the causative organism.
 - ii. Outline the disease cycle.
 - iii. Briefly describe the control measures taken to manage the disease.

04. a) What main functions are played by cell wall degrading enzymes during plant disease development?
- b) Name the important types of cell wall degrading enzymes and describe the role of each of these enzyme types.
- c) How does cell wall degrading enzyme activity affect diseased host tissue?
05. a) What are Koch's postulates and of what significance are they in plant pathology?
- b) How and why are these postulates modified when applied to pathogens such as viruses?
- c) Briefly outline the properties used in the identification and characterization of plant pathogenic viruses.
06. Name and classify the causative organism/s, describe the diagnostic symptoms and disease cycle and suggest control measures for any two (02) of the following:
- a) Downy mildew on grapes.
- b) Club root on crucifers.
- c) White root disease on rubber.

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