

THE OPEN UNIVERSITY OF SRI LANKA

B.Sc. DEGREE PROGRAMME - BOTANY - LEVEL 05

FINAL EXAMINATION - 2009/2010

BTU3102/BTE5102 - PLANT PATHOLOGY I

DURATION : TWO AND A HALF (2 ½) HOURS



DATE : 09<sup>th</sup> January 2010

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.
  - a) What is a blight?
  - b) Name two (02) blight diseases of economic importance on potato (*Solanum tuberosum*) in Sri Lanka.
  - c) Name and classify the causative organism for each of the diseases you mention in (b) and distinguish the diseases based on:
    - i. Characteristic symptoms.
    - ii. Asexual spores of the pathogens.
  - d) For any one (01) of the above diseases:
    - i. Briefly outline the disease cycle.
    - ii. Recommend suitable methods of disease management.
  
02. With the aid of fully labelled diagrams, describe the following:
  - a) Structure and function of the haustorium of plant pathogenic fungi.
  - b) Range of reproductive structures among powdery mildews.
  - c) Transfer of the T<sub>i</sub> plasmid of *Agrobacterium tumefaciens* into its host cells.
  
03.
  - a) What is an inoculum?
  - b) List of the types of inocula produced by plant pathogens.
  - c) Briefly describe how viral inocula are dispersed.



04. a) What is (i) hyperplasia and (ii) hypertrophy?
- b) List out the different types of morphological symptoms seen on diseased plants due to hyperplasia and hypertrophy.
- c) State one (01) economically important disease with such symptoms on the underground parts of the host plant.
- d) For the disease you mention in (c):
- Name and classify the causative organism.
  - Briefly outline the disease cycle.
  - Recommend methods of disease management.
05. a) What are rust diseases?
- b) Briefly describe the spore types produced by rusts.
- c) How do microcyclic rusts differ from macrocyclic rusts?
- d) State two (02) common rust diseases found in Sri Lanka, mentioning the causative organism for each.
06. a) What is an epidemic?
- b) What are the main factors affecting the development of an epidemic?
- c) Briefly describe the effect of each of these factors on the progress curve of a plant disease during an epidemic.

- Copyrights reserved -