

THE OPEN UNIVERSITY OF SRI LANKA

B.Sc. DEGREE PROGRAMME - BOTANY - LEVEL 05

FINAL EXAMINATION - 2016/2017

BOU3101/BOE5101 – PLANT PATHOLOGY



DURATION: TWO (02) HOURS

Date: 02.08.2017

Time: 1.00 p.m. – 3.00 p.m.

ANSWER ANY FOUR (04) OF THE FOLLOWING QUESTIONS.

ILLUSTRATE YOUR ANSWER WITH FULLY LABELLED DIAGRAMS WHEREVER NECESSARY.

1. (a) What are soft rots?

(b) Explain how soft rot pathogens initiate disease and develop in the host tissue.

(c) Name one (01) common bacterial soft rot and one (01) common fungal soft rot giving the causative organism for each of the examples you mention.

(d) Describe the measures taken to control post-harvest soft rots on fruits and vegetables.
2. (a) What are downy mildews and powdery mildews?

Briefly describe the taxonomic group of the causative organism/s and the diagnostic symptoms for each of these diseases in your answer.

(b) With the aid of labelled diagrams, explain how you would identify the different pathogenic genera based on:

(i) Sporangiphore morphology of the downy mildews.
(ii) Sexual reproductive structures of the powdery mildews.

(c) Illustrate how the downy mildews and the powdery mildews colonize their host tissue.

3. (a) Describe the nature and composition of viruses.
- (b) Why are the Koch's postulates modified for pathogens such as viruses?
- (c) Outline the properties used in the identification and characterization of plant pathogenic viruses.
4. (a) Explain how phytopathogenic fungi survive in the absence of host plants.
- (b) Name the types of dispersal agents and describe how they assist pathogens to arrive at their host plants.
- (c) Briefly outline how fungal pathogens penetrate plants.
5. (a) What are rust and smut diseases?
- (b) Name one (01) smut disease and one (01) rust disease which are of economic importance in Sri Lanka.
- (c) For each of the diseases you mention in (b):
- (i) Name and classify the causative organisms.
 - (ii) Describe the different types of spores produced by each of them.
 - (iii) Explain how these diseases spread.
 - (iv) Recommend suitable methods of disease management.
6. Write an essay on the use of cultural practices in disease management.