

THE OPEN UNIVERSITY OF SRI LANKA
B.Sc. DEGREE PROGRAMME – BOTANY – LEVEL 5/6
FINAL EXAMINATION – 2014/2015
BOU4110 - ADVANCED PLANT PATHOLOGY
BTU3110 - PLANT PATHOLOGY II
DURATION: TWO (02) HOURS



DATE: 11.11.2015

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. Write short notes on the following:
 - (a) Effect of rhizosphere on spore germination.
 - (b) Pathogen factors and host factors which contribute towards vascular wilt syndromes.
 - (c) Environmental factors and their effect on disease development.

2. (a) What are the three (03) main groups of pathogen-secreted chemical substances which assist host plant attack?
 - (b) Briefly describe the effect of each of these groups of chemical substances on disease development.

3. (a) What is true resistance in plants?
 - (b) What is meant by breeding for resistance and why is it a difficult task for plant breeders?
 - (c) What techniques are used by plant breeders to produce disease resistance in plants?

4. Briefly describe the following giving named examples:
- (a) Pre-existing defenses in plants against pathogens.
 - (b) Fungal and bacterial antagonists in biological control of plant disease.
5. (a) What are monocyclic diseases and polycyclic diseases?
Giving suitable examples, briefly comment on the kind of reproductive cycle you would expect for each type of these diseases.
- (b) Draw the characteristic disease-progress curves for a monocyclic disease and a polycyclic disease. What information is revealed by these curves?
- (c) What methods of control would you consider effective to manage the two types of diseases? Give reasons for your answer.
6. (a) What is an epidemic?
- (b) State the components which affect the development of an epidemic? Describe the factors which in turn influence each of these components?
- (c) What are the different methods available to measure plant disease and how are these made use of in epidemiological studies?