

The Open University of Sri Lanka
Faculty of Natural Sciences
B.Sc. Degree Programme



Department	: Botany
Level	: 05
Name of the Examination	: Final Examination
Course Title and Code	: Plant Pathology - BYU5301
Academic Year	: 2020/2021
Date	: 19 th December 2021
Time	: 13.30 h - 15.30 h
Duration	: Two (02) hours

General Instructions

1. Read all instructions carefully before answering the questions.
 2. This question paper consists of **six (06)** questions and **two (02)** pages.
 3. Answer any **four (04)** questions only. All questions carry equal marks.
 4. The answer for each question should commence on a new page.
 5. Draw fully labelled diagrams where necessary.
 6. Involvement in any activity that is considered as an examination offence will lead to punishment.
 7. Use blue or black ink to answer the questions.
 8. Clearly state your Index Number in your answer script.
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1. With the aid of fully labelled diagrams describe the following:
 - a) Transfer of the T_i-plasmid of *Agrobacterium tumefaciens* to its host plant
 - b) Sporangiphore morphology of the downy mildews
 - c) Haustorial development of *Sphaerotheca pannosa* f. sp. *rosae* on rose

2.
 - a) Give a brief account of the nature and composition of viruses.
 - b) What features are used in the identification and characterization of plant pathogenic viruses?

3.
 - a) What are rust fungi?
 - b) Describe the different types of spores produced by rust fungi.
 - c) Differentiate between microcyclic rusts and macrocyclic rusts.
 - d) State one (01) historically important rust disease found in Sri Lanka, naming and classifying the causative organism.
 - e) Explain how the rust disease you mention in (d) spreads and recommend suitable control measures to manage this disease.

4.
 - a) What is a disease epidemic?
 - b) What are the three (03) main factors necessary for the development of an epidemic?
 - c) Briefly describe how these factors affect the progress curve of a plant disease during an epidemic.

5. Write a short account on:
 - a) Koch's postulates
 - b) Insects as plant virus vectors
 - c) Pectolytic cell wall degrading enzymes

6. Giving suitable examples, describe how cultural practices are used in plant disease management.