



**RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES**

**B.Sc. (General) Degree in Applied Science
Second Year – Semester I Examination – September/ October 2019**

BOT 2204 – PLANT PATHOLOGY

Time: Two (02) hours

Answer FOUR (04) questions including question number 1.

1. a) i. What is a plant disease? **(09 marks)**

ii. List three (03) significant historical phytopathological events. **(09 marks)**

iii. Give three examples of 'signs' in phytopathology. **(09 marks)**

iv. Draw a sketch of a polycyclic disease cycle. **(15 marks)**

v. What are the two (02) most important groups of eukaryotic plant pathogens? **(04 marks)**

b) i. What is an 'infection'?

(08 marks)

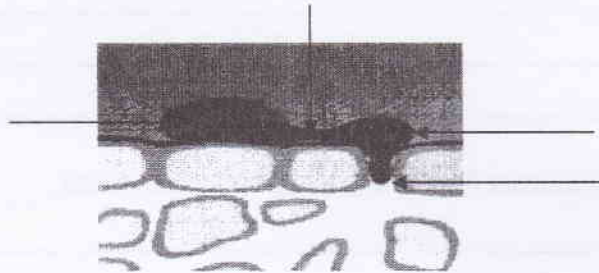
ii. List different ways by which pathogens gain entry into a host plant.

(08 marks)

iii. The diagram below depicts a fungal pathogen entering into a host plant.

Label the structures indicated by the arrows.

(08 marks)



iv. List three (03) means of pathogen survival in the field between cropping seasons.

(06 marks)

v. List four (04) major fungal diseases and their specific.

(16 marks)

Disease	Causative agent
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vi. State what rhizomorphs and sclerotia are and their main function

(08 marks)

2. a) Explain the concept of disease triangle and the contribution of each component of it in disease establishment. **(80 marks)**
- b) Mention how time and human factors interact with the disease triangle in an epidemic of plant diseases. **(20 marks)**
3. a) Contrast disease control versus disease management. **(20 marks)**
- b) Demonstrate the relationship between vertical resistance and gene on gene off action of pathogens and their hosts. **(80 marks)**
4. Following is a definition of plant quarantine shortened to limit its usage to plant diseases in agriculture.
- 'Rules and regulations promulgated by governments to regulate the introduction of plants, planting materials, plant products, soil, living organisms, etc. with a view to prevent inadvertent introduction of exotic pathogens harmful to the agriculture of a country/region and if introduced, to prevent their establishment and further spread'**
- Discuss the significance of plant quarantine applicable to agriculture in as per above definition. **(100 marks)**
5. Write notes on the following. **(100 marks)**
- a) Impact of man activity on plant disease epidemiology **(35 marks)**
- b) SAR against plant pathogens **(35marks)**
- c) Life cycle of a heteroecious macrocyclic rust fungus **(30 marks)**

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