RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. Degree in Applied Sciences
Second Year – Semester I Examination –June/ July 2022

BOT 2204 – PLANT PATHOLOGY

Time: Two (02) hours

Answer any FOUR (04) questions only.

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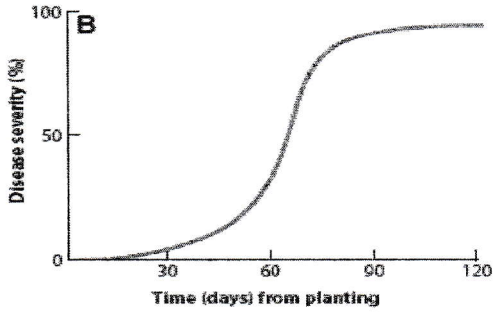
1. a) i. Write a definition of plant disease epidemic. **(09 marks)**

ii. Name the **four (04)** components of disease tetrahedron of a plant diseasedevelopment. **(12 marks)**

iii. List **three (03)** pathogenicity factors expressed by plant pathogens. **(15 marks)**

iv. Following is a representation of a type of disease progression curve.



Name the type of curve, type of disease cycle and a pathogen that shows this pattern. **(09 marks)**

v. Following is a mathematical expression that describes a polycyclic disease cycle.

$X=X_0e^{rt}$

State what are denoted by X_0, r and t. **(09 marks)**

b) Discuss how an epidemiccan be managed,focusing on the components identified in a) v above. **(46 marks)**

2. a) Explain the importance of 'inoculum potential' in a successful infection. **(35 marks)**

b) Discuss the events that take place in the development of a disease in a polycyclic disease cycle. **(65 marks)**

3. a) Summarize, in **five (05)** short sentences, the most important features of MLOs in relation to plant diseases. **(35 marks)**

   b) Write a brief account on the classification of plant diseases based on symptoms. **(65 marks)**

4. a) Discriminatebetween necrotrophic and biotrophic modes of nutrition of plant pathogens. **(35 marks)**

   b) "Rate of photosynthesis in plants can be affected by the colonization of pathogenic microorganisms". Justify this statement. **(65 marks)**

5. Write short notes on the following. **(Max. 100 marks)**

   a) Induced Systemic Resistance (ISR) **(35 marks)**

   b) Typical preventive measures in integrated plant disease management **(35 marks)**

   c) Epidemic Decline (of a plant disease) **(35 marks)**

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