

UNIVERSITY OF RUHUNA
BACHELOR OF SCIENCE (GENERAL) DEGREE LEVEL II - (SEMESTER I)

EXAMINATION – AUGUST – 2017

SUBJECT: BOTANY

COURSE UNIT: BOT 2121 (Plant Pathology)

Time: One hour

Answer two (02) questions ONLY including the question NO.1

(for the question 01 use the space provided)

(1)

(a) "Plant pathogens have affected social, economical and environmental aspects in the world history"

Give an example for such effect on each category.

(i) Social :.....
.....

(ii) Economical :.....
.....

(iii) Environmental :.....
.....

(5X3=15 Marks)

(b) Give a definition for a diseased plant.

.....
.....
.....

(10 Marks)

(c) What are the typical characteristics of an infectious disease?

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.....
.....
.....

(05 Marks)

(d) Give definitions for the following;

(i) Host plant:

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.....

(ii) Pathogenicity:

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.....

(iii) Virulence:

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.....

(vi) Susceptibility:

.....
.....

(vii) Incompatible interaction:.....

.....
.....

(5X4=20 Marks)

(e) What is “disease cycle”?

.....
.....

.....
.....

(10 Marks)

(f) Name five different plant diseases caused by different taxonomic groups of organisms.

Group of Organism	Name of the Plant Disease
1.
2.
3.
4.
5.

(5X2=10 Marks)

(g) Name five toxins produced by plant pathogens, and state an effect of each on plants.

Toxin	Effect
1.
2.
3.
4.
5.

(5X2=10 Marks)

(h) Mention four different routes that pathogens use to get access to plants and provide an example for each.

Routes	Pathogen
1.
2.

3.
4.

(4X2=08 Marks)

(l) What are the steps in Koch's postulates?

.....
.....
.....
.....
.....

(4X2=08 Marks)

(j) Name four induced histological defense mechanisms found in plants.

1.
2.
3.
4.

(4X03=12 Marks)

(k) How do you differentiate phytoalexins from phytoanticipens?

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.....
.....
.....

(10 Marks)

(L) What do you understand by the term '**hypersensitive cell death**'?

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.....
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.....
.....

(06 Marks)

(M) Define the following terms used in plant pathology;

(i) Avoidance:

.....

(ii) Exclusion:

.....

(iii) Eradication:

.....

(3X02=06 Marks)

(N) How do you define a '**biocontrol agent**'?

.....

.....

.....

(04 Marks)

(O) Name two common biocontrol agents used in plant disease control.

.....

(04 Marks)

(P) Name two mechanisms found in biocontrol agents that are responsible for biocontrol activities.

.....
.....

(02x2=04 Marks)

(Q) Name four advantages of using biocontrol in crop protection.

- (i)
- (ii)
- (iii)
- (iv)

(4X02=08 Marks)

Total = 150 Marks

(2)

- (a) Write an account on effects of plant diseases on photosynthesis and water transport of plants.
- (b) List out the precautions that you would take to minimize the spread of soil-borne plant diseases.

(3) Write notes on the following;

- (a) Plant virus diseases in Sri Lanka
- (b) Integrated disease management
