



THE OPEN UNIVERSITY OF SRI LANKA
B.Sc. DEGREE PROGRAMME - BOTANY - LEVEL 05
BTU 3110 - PLANT PATHOLOGY II
ASSESSMENT TEST - II
(NO BOOK TEST)
DURATION : ONE (01) HOUR



DATE : 02nd February 2007

TIME: 3.30p.m.-4.30p.m.

Registration No.....

ANSWER ALL QUESTIONS IN THE SPACE PROVIDED.

I. Matching Test

The terms given in List A correspond with the statements given in List B.

Select the most suitable term for each statement and write the letter assigned to the term (A to T) in the space provided.

List A - Terms

- | | |
|---------------------------|---------------------------|
| A - Acquired resistance | K - Horizontal Resistance |
| B - Alarm signal | L - Hypersensitivity |
| C - Biological control | M - Integrated control |
| D - Breeding | N - Multiline |
| E - Constitutive | O - PR-proteins |
| F - Cross protection | P - Plantibodies |
| G - Cybrid cell | Q - Polycyclic |
| H - Elicitors | R - Systemic |
| I - Epidemiology | S - Transgenic plants |
| J - Gene-for-gene concept | T - Vertical resistance |

List B - Statements

- 1. The phenomenon in which plant tissues infected with one strain of a virus is protected from infection by other more severe strains of the same virus.
- 2. Total or partial destruction of pathogenic populations by other organisms.
- 3. Partial resistance equally affective against all races of a pathogen.
- 4. Molecules produced by pathogens that induce a response by the host.
- 5. Groups of proteins with different chemical properties produced in a host cell within a short time following inoculation, but all being more or less toxic to pathogens.

- 6. Spreading internally throughout the plant body; said of a pathogen or chemical.
- 7. Those into which genes from other plants or other organisms have been introduced through genetic engineering techniques and are expressed, that is, produce the expected function or compound.
- 8. Each gene that confers virulence to the pathogen has a corresponding gene in the host that confers resistance to the host.
- 9. A substance, usually an enzyme whose presence and concentration in a cell remain constant, unaffected by the presence of its substrate.
- 10. Plant resistance to disease activated after inoculation of the plant with certain microorganisms or treatment with certain chemical compounds.
- 11. A chemical compound produced by a host plant in response to infection and sent out to host cell proteins and genes which it activates to produce substances inhibitory to the pathogen.
- 12. An approach that attempts to use all available methods of control of a disease for best control results at least lost and damage to environment.
- 13. Antibodies produced in transgenic plants expressing the antibody producing gene/s of a mouse that had been previously injected with a pathogen (usually a virus) that infects the plant.
- 14. A mixture of cultivars or varieties that vary primarily in their genes for resistance to disease.
- 15. Completes many cycles in one year.
- 16. Products of the fusion of the nucleus from one cell and the cytoplasm of the other.
- 17. Use of controlled reproduction to improve certain characteristics in plants.
- 18. Complete resistance to some races of a pathogen but not to others.
- 19. Excessive sensitivity of plant tissue to certain pathogens where affected cells are killed quickly, blocking the advance of the pathogen.
- 20. The study of factors affecting the outbreak and spread of infectious diseases.

(20x2 marks)

II. a) What is an epidemic?

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

b) State the three (03) main components which affect disease development.

1.
2.
3.

(12 marks)

III. Give three (03) methods by which plant diseases are controlled through exclusion by legislation.

1.
2.
3.

(06 marks)

IV. Give three (03) methods by which plant diseases are controlled through eradication using cultural practices.

1.
2.
3.

(6 marks)

V. Give the two (02) main categories of organic chemicals used in disease control. Give one (01) example for each of these categories.

<u>Category</u>	<u>Example</u>
1.
2.

(10 marks)

VI. Direct protection against plant disease is often achieved by the use of chemicals.

a) Given four (04) methods by which chemicals are applied for this purpose.

1.
2.
3.
4.

b) Give three (03) common ways by which the pathogen develops resistance to fungicides.

1.
2.
3.

c) Give three (03) problems which could arise due to the use of chemicals for the control of post harvest diseases.

1.
2.
3.

(26 marks)

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