

THE OPEN UNIVERSITY OF SRI LANKA

B.Sc. DEGREE PROGRAMME – BOTANY – LEVEL 05

BOU3101/BOE5101 – PLANT PATHOLOGY

ASSESSMENT TEST II (NO BOOK TEST)



35

DURATION: ONE (01) HOUR

DATE: 10th MARCH 2013

TIME: 11.00 a.m. – 12.00 noon

Registration No.

ANSWER ALL QUESTIONS IN THE SPACE PROVIDED.

Q1. Damping off of seedlings is a necrotic disease which occurs worldwide in the nurseries of a variety of plants such as brinjal, chilli and tomato.

a) Name the two (02) phases during which damping off of seedlings may occur.

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b) Briefly describe the characteristic symptoms at each of these phases.

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c) Name one (01) fungus which is a common causative organism of damping off of seedlings.

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d) Describe this pathogen's mode of host attack.

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e) What are the optimum environmental conditions which favour growth of pathogen?

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f) Give two (02) ways of sowing used as good seed-bed management practices to control the disease.

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(20 marks)

Q2.

a) What are galls and club-roots?

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b) How are they formed?

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c) Name one (01) common pathogen which causes club-root disease on crucifers.

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d) What kind of host-pathogen relationship does it have?

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e) Why is crop rotation not a good cultural practice to control this disease?

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(15 marks)

Q3. Of the many root diseases of rubber, the most serious disease is the white root disease first recorded in Sri Lanka in 1905.

a) What are the first visible symptoms of the white root disease of rubber?

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b) What is its causative organism?

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c) Explain why this disease spreads radially around its initial point of infection.

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(12 marks)

Q4. Two species of Deuteromycetes are known to cause the majority of vascular-wilt diseases in the world.

a) Name these two (02) fungi.

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b) In what regions does each of these fungi predominately cause disease?

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c) How do these vascular-wilt fungi colonize their host plants?

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d) What mode of resistance do the host plants have to resist wilts?

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(18 marks)

Q5. Brown spot of rice occurs in almost all rice-growing areas of the world causing serious crop losses. It was the main cause of the Bengal Famine in 1942 where millions died of starvation.

a) Name the causative organism of this disease.

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b) Give the characteristic symptoms that appear on the leaves.

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c) Name the highly toxic phytotoxin produced by this pathogen and its effect on rice seedlings.

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d) Mention the cultural practices used to control this disease indicating why these practices are found to be effective.

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(15 marks)

Q6.

a) To what family do the powdery mildews belong?

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b) What are the two (02) main features that are used to differentiate the different powdery mildews?

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c) How do they colonize the host and obtain nutrients?

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d) What is the dispersal stage of these fungi?

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e) What is the survival stage of these fungi?

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(12 marks)

Q7. Rust diseases are named for the powdery orange spores in pustules that many rust fungi produce on infected plants.

a) Name the repeating spore which gives this characteristic colour to the rusts.

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b) Why is it that *Puccinia graminis* f.sp.*tritici* causes stem rust on wheat and not on barley?

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c) Why is it possible to control wheat rust by destroying barberry plants?

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d) Why does this practice not fully eliminate this disease?

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(08 marks)