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THE OPEN UNIVERSITY OF SRI LANKA
B.Sc. DEGREE PROGRAMME
BOTANY – LEVEL 05
BOU3101/BOE5101 – PLANT PATHOLOGY
ASSESSMENT TEST III (NO BOOK TEST)
DURATION : ONE (01) HOUR

Date : 28th February 2015 **Time : 02.30 p.m. – 03.30 p.m.**

Registration No.....

ANSWER ALL QUESTIONS IN THE SPACE PROVIDED.

I. **Matching Test**

The diseases listed below correspond with the statements which follow. Match the most suitable disease for each of the statements and write its letter (A – J) in the space provided on the left side.

A – Anthracnose on banana
B – Downy mildew on grapes
C – Common scab on potato
D – Smut on sugar cane
E – Brown spot on rice
F – Rust on wheat
G – Tristeza disease on citrus
H – Powdery mildew on rose
I – *Corynespora* leaf disease on rubber
J – Fire blight on pear

____1) The characteristic whip-like apical structures of the host appear black and dusty due to the production of teliospores.
____2) Requires the barberry plant as an alternate host to complete disease cycle.
____3) A viral disease spread world-wide.
____4) Caused by a bacterial pathogen which is a Gram - ve rod with peritrichous flagella.
____5) Appearance of black, sunken, necrotic lesions with pink masses of conidia in acervuli.
____6) Ectoparasitic fungal mycelia form haustoria into the epidermal cells of host.
____7) May produce oospores which survive in soil during unfavourable conditions.
____8) Characteristic symptoms of rail-track-like appearance.
____9) Caused by an actinomycete which stimulates cork formation in host.
____10) Chief cause of the Bengal famine.

(25 marks)

II. a) Early blight and late blight are two common diseases on potato.

Name the causative organism for each of these diseases.

i. Early blight on potato - ----------

ii. Late blight on potato - ----------

b) How would you distinguish these two diseases based on the characteristic symptoms on the potato leaves?

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c) Draw and label the conidia of (i) and (ii) highlighting the characteristic features for identification.

(28 marks)

III. a) What is the causative agent of the tobacco mosaic disease?

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b) How would you best describe its relationship with the host?

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c) Describe its morphology.

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d) How would you attempt to inoculate this pathogen to a healthy tobacco plant?

(10 marks)

IV. a) What is damping off?

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b) Name <u>one</u> (01) common oomycetous pathogen which causes damping off the seedlings.

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c) Describe its mode of host attack.

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d) Why is damping off different from most diseases of mature plants?

(15 marks)

V. a) Why are root diseases difficult to diagnose and manage?

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b) Name <u>one</u> (01) common basidiomycetous root disease affecting a plantation crop in Sri Lanka.

i. Disease - ----------

ii. Host - ----------

iii. Pathogen - ----------

c) How does this pathogen spread?

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d) How is this disease managed in Sri Lanka?

(22 marks)