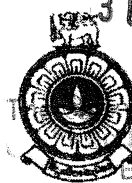


30 APR 2009



University of Sri Lanka
Regional Centre
EXAMINATION

THE OPEN UNIVERSITY OF SRI LANKA
B.Sc./B.Ed. DEGREE PROGRAMME – 2008/2009
BOTANY – LEVEL 04
BTU 2201/BTE 4201 – PLANT PHYSIOLOGY
ASSESSMENT TEST III – (NO BOOK TEST)
DURATION : ONE (01) HOUR

Registration No.

DATE : 30th April 2009

TIME: 4.00 p.m. – 5.00 p.m.

ANSWER ALL QUESTIONS IN THE SPACE PROVIDED.

01. Fill in the blanks with the most appropriate word/words.

- (a) The net assimilation rate is an estimate of _____.
- (b) According to modern ideas about phototropism in plants, light causes auxin to accumulate on the _____ side of a plant stem.
- (c) Plants that flower when the day length is _____ than the _____ day length are known as long-day plants.
- (d) Potoperiodism is the response of plants to _____.
- (e) The winding of morning glory stems around a support is a result of _____.
- (f) Coconut milk is a rich source of the hormone _____.
- (g) Gibberellin was first detected in _____ disease.
- (h) In most plants, auxin is synthesized from the amino acid _____.
- (i) Root apical meristems are the major sites of synthesis of _____.
- (j) Increased concentration of _____ causes stomata to close and results in the reduction of water loss under _____ conditions.
- (k) Abnormal growth termed “triple response” in seedlings is caused by _____.
- (l) Hydronasty involves folding of leaves in response to _____.

- (m) The spontaneous rotational growth shown by an elongating plant apex around its own axis is termed _____
- (n) Under drought conditions, leaf _____ concentration increases up to 50 times.
- (o) Carrot and cabbage plants with a 'rosette type' of growth can be made to _____ and flower by treating with the hormone _____
- (p) Induction of flowering by cold treatment is known as _____
- (q) Unfavorable environmental conditions can bring dormancy in buds and seeds and it is known as _____

02. a) List five (05) physiological effects of gibberellins.

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b) Briefly explain the effect of gibberellins on the amylase production in germinating cereal grains.

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c) State the significance of amylase production in germinating cereal grains.

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- d) Give two (02) similarities exhibited by auxins and gibberellins with respect to individual plant responses.

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- e) What is the effect of cytokinin on apical dominance?

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- f) What is climacteric? What triggers it?

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- g) Define the following terms

- i. Nyctinasty

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- ii. Phototropism

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- iii. Phytochrome

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- iv. Day-neutral plants.

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03. a) Distinguish between abiotic and biotic stress.

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b) List four (04) biotic factors that produce stress in plants.

- i.
- ii.
- iii.
- iv.

c) Briefly describe different responses of plants to stress.

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d) Give five (05) effects of water stress on plants.

- i.
- ii.
- iii.
- iv.
- v.

e) Define the following terms.

i. Halophytes.

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ii. Salt accumulators

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iii. Glycophytes.

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