



THE OPEN UNIVERSITY OF SRI LANKA

B.Sc./B. Ed. DEGREE PROGRAMME - 2010/2011

BOTANY - LEVEL 05

ASSESSMENT TEST (OPEN BOOK TEST)

BTU3113/BTE5113- POSTHARVEST TECHNOLOGY OF FRESH PRODUCE

DURATION : ONE (01) HOUR.

DATE : 06th March 2011

TIME: 4.00 p.m. – 5.00. p.m.

No. of Questions – 03

No. of Pages – 05

ANSWER ALL QUESTIONS ON THE SPACE PROVIDED.

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

- a) The field of study that uses the knowledge of all factors that lead to loss of _____ in order to develop affordable and effective technologies that minimize the rate of _____ is known as post-harvest technology.
- b) _____ management is essential to slow down the rate of respiration and the growth rate of post-harvest rots thereby extending the shelf life and maintaining the quality.
- c) Soluble food fibre is mainly _____ and some plant gums and insoluble food fibre is mainly _____ and _____.
- d) The glycemic index of a food tells us the relative ability of foods to affect _____ level.
- e) The life of fruits and vegetables can be divided into three major physiological stages, growth, _____ and senescence.

- f) Climacteric fruits show burst production of _____ which coincides with ripening.
- g) Development of bitter taste in carrots exposed to ethylene is due to the formation of _____ which is an intensely bitter compound.
- h) Causal agent of black mould rot of onions is _____
- i) Presence of dark brown, circular to star-shaped areas on the surface of the tuber is a symptom of _____ of potato.
- j) Ethylene mediated senescence is indicated by loss of chlorophyll, loss of protein, desiccation and susceptibility to _____.
- k) Calcium carbide when hydrolyzed produces _____ which is a precursor of ethylene.
- l) _____ concentration of O_2 and _____ concentration of CO_2 in the storage atmosphere reduce the rate of ethylene production.
- m) The damage due to pressure or weight of other commodities placed on top of a particular commodity is known as _____ damage.
- n) Deposition of _____ or _____ or both on fiber cause toughening.
- o) Gangrene of potato is caused by _____ Spp.

02. a) Name two(02) ethylene releasing compounds.
- i.
- ii.
- b) What are ethylene generators?
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- c) Give four(04) deleterious effects of ethylene.
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- d) List the chemical processes by which ethylene is removed in the post-harvest environment.
- i.
- ii.
- iii.
- iv.
- v.
- e) What are anti-ethylene compounds?
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- f) Briefly describe how anti-ethylene compounds inhibit the effects of ethylene.
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g) Explain the following.

i. Antisense technique

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ii. Co-suppression technique.

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03. a) Define the term 'post-harvest losses'

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b) "Post-harvest loss is cumulative". Comment on this

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c) What are the major causes of post-harvest losses of fresh produce?

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

d) How would you minimize the impact damage of fresh produce?

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- e) What kind of injuries are caused in harvested produce if they are exposed to high temperatures?

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- f) What are the pre-formed structural barriers present in plants which slow down the progress of the pathogen?

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- g) What do you understand by the term “biochemical defence”?

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- h) Explain the following terms.

i. Appressorium

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ii. Endophytic infection

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iii. Phytoalexins.

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