



SLIATE

SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION

(Established in the Ministry of Higher Education, vide in Act No. 29 of 1995)

Higher National Diploma in Technology (Agriculture)

First Year, Second Semester Examination – 2016

AG 1204: Fruit Production

Instructions for Candidates:

There are three parts (I, II, III).

Answer all questions.

Answer Part I and Part II on the paper itself.

Part I and Part II will be collected after **one (01) hour**.

All questions do not carry equal marks.

Index No:

No. of pages : 06

No. of questions : 07

Time : **Three (03) hours**

Part I

Question 01: (Total 16 Marks)

Underline the most appropriate answer.

- (i) Select the **correct** statement/s regarding fruit setting in higher plants.
- 1) Fertilization and seed set are usually essential for fruit initiation.
 - 2) The enlargement of ovarian tissues are stimulated usually by fertilization.
 - 3) Formation of seeds and the development of fleshy tissues of the fruits are correlated.
 - 4) Pollination stimulates auxin formation in the ovary.
- a) Only the statement 1 is correct
b) Statements 1, 2, 4 are correct
c) Statements 1, 3, 4 are correct
d) All the statements are correct
- (ii) Recommended dimensions of a planting hole size for banana cultivation is,
- a) 45 cm x 45 cm x 45 cm
 - b) 60 cm x 60 cm x 60 cm
 - c) 30 cm x 30 cm x 30 cm
 - d) 1 m x 1 m x 1m
- (iii) Select the **incorrect** statement regarding the irrigation of mango, in order to ensure a good yield.
- a) Proper irrigation must be done from flowering to fruit maturity.
 - b) Proper irrigation is essential from leaf bud burst to leaf maturity.
 - c) Continuous application of water to the field should be done from leaf maturity up to flower bud burst.
 - d) Frequency and amount of irrigation depends on rain fall and soil properties.

- (iv) Most popular propagation method for citrus species is “Budded plants”. Select the best root stock to produce budded plants, from the root stocks given below.

Root stock	Yield/tree	Fruit size	Tree vigor	Root system
Species A	Medium	Small	Very good	Well developed
Species B	High	Large	Poor	Weak
Species C	Medium	Large	Poor	Moderate
Species D	Very high	Medium	Poor	Weak

- a) Species A
 b) Species B
 c) Species C
 d) Species D

- (v) Statement below is made on a popular variety of pineapple.

“The variety is susceptible to the wilt disease and ripen fruit is yellow in colour with green mottling. Further, the ripen fruit is cylindrical in shape.”

The variety described above is,

- a) Queen
 b) Kew
 c) Sigapore Spanish
 d) Mauritius

- (vi) Select the **correct** statement regarding papaw flowering and fruiting.

- a) Fruits produced from female type flowers are long and cylindrical in shape.
 b) Fruits produced from bi-sexual flowers are round in shape.
 c) Central cavity is large in the fruits produced from female type flowers.
 d) Both types of female and bi-sexual flowers cannot be found in the same tree.

- (vii) One of the major growing areas of Avocado is,

- a) Hambantota
 b) Jaffna
 c) Moneragala
 d) Kandy

- (viii) A variety of grapes which turns fruit colour into light greenish yellow at ripening is,

- a) Semlon
 b) Cardinal
 c) Improved Isabella
 d) Muscut MI

- (ix) **Incorrect** statement on present economic status of *Passiflora edulis* is,

- a) There is a high market demand for the harvest.
 b) One market problem is inferior quality of fruits.
 c) Post harvest losses are low, as the outer skin is hard.
 d) Initial investment for cultivation is high.

- (x) Which of the following statement/s is/are correct regarding Mangosteen?
- 1) Plants produced from seeds are the main propagation materials, currently.
 - 2) Sufficient researches are going-on about cultivation of Mangosteen in Sri Lanka.
 - 3) Latex penetration into the medulla of the fruit is an important character taken in to consideration when selecting a mother plant in propagation.
 - 4) Seed treatments are not necessary in propagation, as seeds are resistant to fungal diseases.
- a) Statements 1 and 2 are correct
 - b) Statements 2 and 3 are correct
 - c) Statements 1 and 3 are correct
 - d) Statements 2 and 4 are correct
- (xi) Which one is **not** a recommended variety of Guava?
- a) Mani
 - b) Pubudu
 - c) Kanthi
 - d) Horana white
- (xii) Economical yield of “Rambutan” can be obtained,
- a) 3- 4 years after planting
 - b) 5 -6 years after planting
 - c) 7 -8 years after planting
 - d) 9-10 years after planting
- (xiii) Replanting/ Rejuvenation is practiced in cashew plantations when the trees are,
- a) 20 years old
 - b) 30 years old
 - c) 40 years old
 - d) 50 years old
- (xiv) A fleshy tubular calyx which persists on the fruit can be identified in,
- a) Dragon fruit
 - b) Cashew
 - c) Pomegranate
 - d) Avocado
- (xv) Strawberry belongs to the family of,
- a) Anacardeaceae
 - b) Rutaceae
 - c) Vitaceae
 - d) Rosaceae
- (xvi) Among the underutilized fruits, which one is used as a rootstock for grafting of citrus species?
- a) Wood apple
 - b) Anona
 - c) Jack fruit
 - d) Star fruit

PART - II

Question 02: (Total 12 marks)

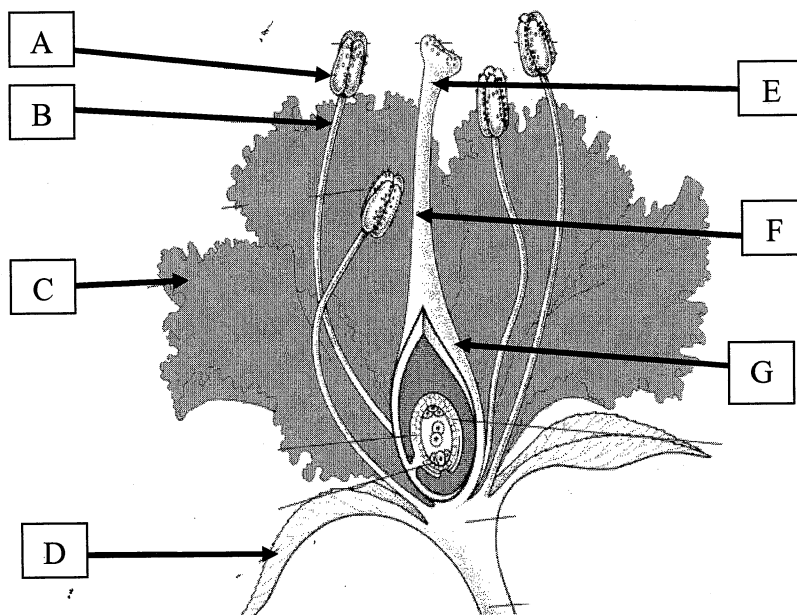
(i) What do you mean by “Obligate vernalization”? (02 marks)

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(ii) Briefly explain the Auxin theory of fruit development. (03 marks)

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(iii) A cross section of a flower is given below. Name the parts A, B, C, D, E, F and G. (07 marks)



- A -
- B -
- C -
- D -
- E -
- F -
- G -

Question 03: (Total 12 marks)

- (i) List down three (03) importance of bagging in banana cultivations, as a management practice. (03 marks)

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- (ii) State two (02) maturity indices for each type of fruit given below. (04 marks)

	Banana	Citrus
1		
2		

- (iii) Mention the steps in pineapple hybridization (05 marks)

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PART III

Question 04: (Total 15 marks)

- (i) Briefly explain the steps of training and pruning of mango in a commercial cultivation. (07 marks)
- (ii) When preparing the budded plants in mango, root stocks should be made. Describe the method of preparation of root stocks of mango. (08 marks)

Question 05: (Total 15 marks)

Write short notes on the followings.

- (i) Seed extraction method of Passion fruit in nursery management. (05 marks)
- (ii) Flowering behavior of Avocado. (10 marks)

Question 06: (Total 15 marks)

- (i) Briefly explain how to practice the root pruning in Grapes. (05 marks)
- (ii) Stem cuttings are used as propagation materials in grapes and the methods given below are used to facilitate rooting of stem cuttings.
 - a) Sand pot
 - b) Polythene pot
 - c) Coir dust medium
 - d) Sand bed

Explain two (02) methods from the above using steps. (10 marks)

Question 07: (Total 15 marks)

- (i) Explain the content in “Government policy on seeds” in Sri Lanka. (06 marks)
- (ii) Discuss the problems faced by the fruit farmers in orchard management. (09 marks)