



1<sup>ST</sup> SEM. 2018/2019

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UNIVERSITY OF ESWATINI

FINAL EXAMINATION PAPER

**PROGRAMME:** BACHELOR OF SCIENCE IN HORTICULTURE  
YEAR IV

**COURSE CODE:** HORT 404

**TITLE OF PAPER:** TEMPERATE FRUIT AND NUT PRODUCTION

**TIME ALLOWED:** TWO [2] HOURS

**INSTRUCTIONS:** ANSWER ANY FOUR (4) QUESTIONS

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INVIGILATOR**

**INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS**

**QUESTION 1**

Discuss the production of plum (*Prunus domestica* L) following these guidelines:

- a) Climate and soil management (10 marks)
  - b) Fertiliser and irrigation (15 marks)
- [25 marks]

**QUESTION 2**

Provide guideline for the production of nectarine (*Prunus persica* L) under the following:

- a) Climate and soils (10 marks)
  - b) Canopy and crop management (15 marks)
- [25 marks]

**QUESTION 3**

Describe the following methods of determining the chilling requirements of various temperate fruits:

- a) Utah chill method (9 marks)
  - b) Daily positive Utah chill unit model (PCU) (4 marks)
  - c) Dynamic model (12 marks)
- [25 marks]

**QUESTION 4**

Provide guideline for the production of grape (*Vitis vinifera* L) under the following:

- a) Climate and soils (10 marks)
- b) Spacing and Training systems (15 marks)

[25 marks]

**QUESTION 5**

- a) What is the significance of "chilling" in temperate fruit production? (10 marks)
- b) Discuss the physiological symptoms associated with "insufficient chilling" as follows:
- i) Delayed foliation (5 marks)
  - ii) Reduced fruit set and increased buttoning (5 marks)
  - iii) Reduced fruit quality (5 marks)

**[25 marks]**