



1ST SEM. 2016/17

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UNIVERSITY OF SWAZILAND

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

**DO NOT OPEN UNTIL PERMISSION HAS BEEN GRANTED BY THE
INVIGILATOR**

INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS**QUESTION 1**

Discuss the production of pear following these guidelines:

- a) Climate (12 marks)
- b) Soils (3 marks)
- c) Irrigation (10 marks)

[25 marks]

QUESTION 2

Provide guideline for the production of pecan nuts (*Carya illinoensis* L) under the following:

- a) Climate (15 marks)
- b) Soils (8 marks)
- c) Bearing age (2 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

Describe 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 importance of sufficient chilling accumulation in temperate fruits? (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]