



2nd SEMESTER 2016/2017

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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME:

**BACHELOR OF SCIENCE IN HORTICULTURE
YEAR III**

COURSE CODE:

HORT 302

TITLE OF PAPER:

GREENHOUSE MANAGEMENT AND UTILIZATION

TIME ALLOWED:

TWO (2) HOURS

INSTRUCTION:

ANSWER ANY FOUR (4) QUESTIONS

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

ANSWER ANY FOUR (4) QUESTIONS

Question 1

- (a) What is a greenhouse? [5 Marks]
- (b) What is the purpose of establishing a greenhouse in horticultural enterprise? [8 marks]
- (c) Describe the uses of greenhouse in horticultural enterprise? [12 Marks]
- [25 marks]

Question 2

Discuss the operations and management of an Environment Controlled Computers (ECC) greenhouse. [25 marks]

Question 3

- (a) Describe the ventilation and cooling systems of a typical greenhouse. [10 Marks]
- (b) What criteria are considered when choosing a covering for a greenhouse? [8 Marks]
- (c) Define the term benching efficiency? [2 Marks]
- (d) Calculate benching efficiency for a greenhouse of dimension 18.5 m by 30.0 m whose height is 6.0 m to the ridge with 28 iron benches having a dimension of 2.0 m X 3.5 m and a height of 1.2 m. [5 Marks]
- [25 marks]

Question 4

- (a) Describe the different ways of disease control in a greenhouse crop environment [5 Marks]
- (b) Distinguish between soil sterilization and soil pasteurization. [5 Marks]
- (c) List the different methods of irrigating greenhouse crops. [5 Marks]
- (d) How is the fertility of greenhouse crops monitored? [5 Marks]
- (e) What are the factors affecting fertilizer application to greenhouse crops? [5 marks]
- [25 marks]

Question 5

You have a 1:242 injector in a greenhouse and want to use potassium nitrate (13%N-0%P₂O₅-44%K₂O) and calcium nitrate (15.5%N-0%P₂O₅-0%K₂O) to supply 185 ppm of N and K with each watering. How many **grams** of each fertilizer would you weigh out to make **1- liter** of concentrate? (Given %K and %P equals **1.2** and **2.3** of K₂O and P₂O₅ respectively, and **10** as the conversion constant C).

[25 Marks]