



2nd SEMESTER 2011/2012

PAGE 1 OF 3

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

**PROGRAMMES: BACHELOR OF SCIENCE IN HORTICULTURE
 YEAR III AND BACHELOR OF SCIENCE IN
 AGRONOMY YEAR III**

COURSE CODE: HORT 305/CP 307

TITLE OF PAPER: HORTICULTURAL EXPERIMENTATION

TIME ALLOWED: TWO (2) HOURS

INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS

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BY THE CHIEF INVIGILATOR**

INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS

Question 1

A research proposal is an important component of successful research. Write a concise outline of your final year research project proposal.

[25 marks]

Question 2

- (a) How can experimental error be minimised in an experiment? [15 Marks]
 - (b) Why would you consider replication of your treatments in your research experiment? [10 Marks]
- [25 marks]**

Question 3

- (a) What is an experimental design? [5 Marks]
 - (b) List the factors you will consider before choosing a design for a research project [10 Marks]
 - (c) State the advantages and disadvantages of a NAMED experimental design. [10 Marks]
- [25 marks]**

Question 4

A research experiment was conducted to compare the yield of three lettuce varieties in a randomized complete block design at UNISWA research farm. The treatments were replicated four times and the following yield results were obtained (kg/plot) after 8 weeks.

Cultivar	Rep 1	Rep 2	Rep 3	Rep 4
Sindmalo	5.0	4.0	4.5	6.5
Nondumots	3.5	5.5	6.0	10.0
MatsaBell	2.5	4.6	4.4	3.8

- (a) Sketch the complete ANOVA table for this experiment [13 marks]
- (b) Show the field layout of the experiment [5 Marks]
- (c) Calculate the experimental error [7 Marks]
- [25 marks]

Question 5

Describe the general steps involved in a research experiment [25 marks]