



**SUPPLEMENTARY 2015/2016**

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**UNIVERSITY OF SWAZILAND**

**SUPPLEMENTARY EXAMINATION PAPER**

**PROGRAMME: BACHELOR OF SCIENCE IN HORTICULTURE**

**YEAR III**

**COURSE CODE: HORT 305**

**TITLE OF PAPER: HORTICULTURAL EXPERIMENTATION**

**TIME ALLOWED: TWO (2) HOURS**

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

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THE CHIEF INVIGILATOR**

**ANSWER ANY FOUR (4) QUESTIONS****Question 1**

(a) What is an experimental design? List the factors you will consider before choosing a design for a research. [15 Marks]

(b) State the advantages and disadvantages of a NAMED research design. [10 Marks]

**[25 marks]****Question 2**

A research proposal is an important component of a successful research. Give an outline of a research proposal.

**[25 marks]****Question 3**

Write short notes on the following:

- |                           |           |
|---------------------------|-----------|
| (a) Randomization         | [5 Marks] |
| (b) Replication           | [5 Marks] |
| (c) Experimental design   | [5 Marks] |
| (d) Research methods      | [5 Marks] |
| (e) Quantitative research | [5 Marks] |

**[25 marks]****Question 4**

a) Experimental error is not a mistake but a result of variability among treatments. How can this be minimised in an experiment? [15 Marks]

b) Why factors would you consider before choosing a research/experimental design?

**[10 Marks]****[25 marks]**

**Question 5**

A field experiment was conducted to determine the effects of three (3) rates of organic manure on the growth and yield of 4 varieties of cabbage at Luyengo in a randomized complete block design replicated three times.

(a) Which method of analysis will you recommend for this experiment and why?

[7 Marks]

(b) List the various treatments used in the experiment. [ 6 Marks]

(c) Sketch the ANOVA table for this experiment, indicating the estimates of the degrees of freedom.

[12 marks]

**[25 marks]**