



**2<sup>ND</sup> SEM. 2014/2015**

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**UNIVERSITY OF SWAZILAND**

**FINAL EXAMINATION PAPER**

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

**COURSE CODE: HORT 405**

**TITLE OF PAPER: ORGANIC FARMING**

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

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

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

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

a) Describe the potential risks related to genetically modified organisms (GMOs) under the following:

- i) Potential risks related to human health (6 marks)
- ii) Potential risks related to the environment (6 marks)
- b) Distinguish between 'biodiversity' and 'agro-biodiversity'. (13 marks)

**[25 marks]****QUESTION 2**

Describe the phases of the composting process as follows:

- a) Heat phase (15 marks)
- b) Cooling phase (5 marks)
- c) Maturation phase (5 marks)

**[25 marks]****QUESTION 3**

Describe the following concepts associated with organic farming:

- a) Nutrient management (6 marks)
- b) Biodynamic agriculture (15 marks)
- c) Organic food (4 marks)

**[25 marks]****QUESTION 4**

- a) Define 'crop rotation'. (5 marks)
- b) Describe the factors to consider when planning a crop rotation system. (10 marks)
- c) Provide an example of a 3-year crop rotation plan. (10 marks)

**[25 marks]****QUESTION 5**

- a) What factors must be considered before undertaking organic fertiliser preparation? (12 marks)
- b) Outline the advantages and disadvantages of preparing your own organic fertiliser. (13 marks)

**[25 marks]**

**QUESTION 4**

Discuss the production of macadamia nuts (*Macadamia integrifolia* L) under the following:

- a) Plant spacing (9 marks)
  - b) Fertilization (16 marks)
- [25 marks]

**QUESTION 5**

- a) Define the following terms:
    - i) Disbudding (1 mark)
    - ii) Pollarding (1 mark)
    - iii) Pinching (1 mark)
    - iv) Root pruning (1 mark)
  - b) Describe the purposes of heading back and thinning out cuts (7 marks)
  - c) What are the objectives and effects of tree pruning ? (14 marks)
- [25 marks]