

CHUKA



UNIVERSITY

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**EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF SCIENCE IN HORTICULTURE**

HORT 421: HORTICULTURAL SEED PRODUCTION

STREAMS: BSC (HORT) Y4S1

TIME: 2 HOURS

DAY/DATE: TUESDAY 03/12/2019

11.30 AM – 1.30 PM

INSTRUCTIONS:

- **The paper contains section A and B**
- **Answer all questions in section A and any two from section B**
- **Marks for each question are indicated in parenthesis ()**
- **Total marks = 70**

SECTION A: TOTAL MARKS 30

Question One

- (a) What is a seed (or kernel in some plants)? [2 marks]
- (b) How are seed (or kernel) formed? [2 marks]
- (c) What is the importance of a seed? [6 marks]

Question Two

- (a) What are the harmful effects of seed-borne diseases? [4 marks]
- (b) Explain each of the named seed structures below, giving their function
- (i) Microphyle [2 marks]
- (ii) Strophiole [2 marks]
- (iii) Endospermic seeds [2 marks]

Question Three

- (a) Name and explain, with examples, the two types of asexual reproduction in plants. [3 marks]
- (b) Comment briefly on epigeal and hypogeal germination. [4 marks]
- (c) Explain why gibberellic acid plays an important role in accelerating the germination of monocots and dicot seeds. [3 marks]

SECTION A: (30 MARKS)

Question Four

Explain the following agronomic factors affecting the quality of seed production:

- (i) Selection of seed plot [4 marks]
- (ii) Depth of sowing [4 marks]
- (iii) Isolation distance [4 marks]
- (iv) Season [4 marks]
- (v) Rogueing [4 marks]

Question Five

- (a) Explain the following:
- (i) Breeder seed [3 marks]
- (ii) Foundation seed [3 marks]
- (iii) Registered seed [3 marks]
- (iv) Certified seed [3 marks]
- (v) Seed sampling [4 marks]
- (b) Differentiate between certified seed and truthful labeled seed. [4 marks]

Question Six

Discuss the seed certification process in Kenya. [20 marks]
