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**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**FOURTH YEAR SECOND SEMESTER UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN HORTICULTURE**

**2016/2017 ACADEMIC YEAR**

**REGULAR**

**COURSE CODE:** AHT 3422

**COURSE TITLE: Seed Science and Technology**

**EXAM VENUE: STREAMS: BSc. Horticulture**

**DATE: EXAM SESSION:**

**TIME: 2 HOURS**

**Instructions:**

1. **Answer ALL questions in section A and ANY other 2 Questions in section B.**
2. **Candidates are advised not to write on question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**

**SECTION A [30 MARKS]**

**Answer ALL questions from this Section.**

1. With a specific example of a named seed, describe the chemical composition of a seed (3marks)
2. Explain the adaptations of seeds to wind, water and animal dispersal (6marks)
3. Describe the production of hybrid seed from plants (3marks)
4. Describe the process of seed certification as stipulated in the Seeds and Plant Varieties Act (Chapter 326) of the Laws of Kenya (4marks)
5. Explain how the following procedures are used in seed quality improvement
6. Somatic hybridization (3 marks)
7. Protoplast culture (3marks)
8. Outline the principles of seed storage that ensure high seed germination and vigor

(4marks)

1. Explain how the following parameters help in seed quality assurance
2. Seed vigor (2marks)
3. Seed longevity and deterioration (2marks)

**SECTION B [40 MARKS]**

**Answer ANY TWO questions from this Section.**

1. Describe the process of double fertilization in angiosperms (20marks)
2. State the Kenyan seed laws and regulations that govern seed certification, processing, sampling, testing, packaging, labeling and sealing (20marks)
3. (i) Define seed dormancy (2marks)
4. State and explain the types of seed dormancy (6marks)
5. What are artificial and natural ways of breaking seed dormancy? (6marks)
6. State the importance of seed dormancy (6marks)