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 AND BACHELOR OF SCIENCE IN ANIMAL SCIENCE

2019/2020 ACADEMIC YEAR

SPECIAL/RESIT EXAM

COURSE CODE: **AHT 3422**

COURSE TITLE: **Seed Science and Technology**

EXAM VENUE: **STREAM:**

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. Explain the following terms as used in seed science and technology.**[10 MARKS]**
   (a) Phytosanitary certificate
   (b) Pericarp
   (c) Seed increase
   (d) Microsporogenesis
   (e) Ovule
   (f) Pistil
   (g) Microgametophyte
   (h) Micropyle
   (i) Phytase
   (j) Pelleted seeds

2. Describe FIVE causes of endogenous dormancy **[5 MARKS]**

3. Deterioration of seeds is observable in their lowered performance during germination. Describe FIVE performance symptoms**[5 MARKS]**

4. There are FIVE factors responsible for the development and evolution of the seed industry. EXPLAIN **[5 MARKS]**

5. Describe FIVE objectives of seed conditioner when cleaning seeds**[5 MARKS]**

SECTION B (40 MARKS)

Answer any two questions for 20 marks each.

6. Describe the following tests for predicting seedling emergence under a wide range of field conditions**[20 MARKS]**
   (a) Cold test:
   (b) Accelerated Aging Test:
   (c) Conductivity Test:
   (d) Cool Germination Test:
   (e) Seedling Growth Rate Test:
   (f) Seedling Vigor Classification Test:
   (g) Tetrazolium (TZ) Test:
   (h) Speed of Germination:
   (i) Osmotic Stress:
   (j) Respiration:

7. Describe the following factors influencing life span of seeds **[20 MARKS]**
   (a) Internal Factors:
   (b) Relative Humidity and Temperature:
   (c) Seed Moisture:
   (d) Moisture Equilibrium:
   (e) Genetic Factors:
   (f) Storage fungi:
   (g) Mechanical Damage:
   (h) Seed Maturity:

8a. Describe TEN information required on labels of seeds**[10 MARKS]**

8b. Seed enhancement technology has a central objective to further improve seed performance under very specific regimes and with certain planting equipment. Describe FOUR techniques for ensuring superior performance of seeds include**[10 MARKS]**