JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

FOURTH YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURAL EXTENSION EDUCATION

2022/2023 ACADEMIC YEAR

REGULAR EXAM

COURSE CODE: AHT 3414

COURSE TITLE: Field Crops

EXAM VENUE: **STREAM: BSc. Agricultural Extension &Education**

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. Give short answers to the following questions

(a) Explain TWO ways in which application of farm yard manure prior to sowing sorghum increases productivity **[1 MARK]**

(b) How does reduced light intensity affect cotton plants? **[1 MARK]**

(c) Why is sesame considered one of the best alternative specialty crops? **[1 MARK]**

(d) Why shouldn't you plant sesame on sloping ground? **[1 MARK]**

(e) What factors will influence your decision to plant cotton on ridges? **[2 MARKS]**

(f) Describe the THREE disadvantages of broadcasting method of planting for wheat **[3 MARKS]**

(g) In what THREE ways can low and high temperatures negatively affect cotton performance? **[3 MARKS]**

(h) Land tilling is critical for higher maize productivity. Outline THREE reasons **[3 MARKS]**

(i) Explain THREE reasons why sesame is an excellent rotation crop of cotton, maize, groundnut, wheat, and sorghum **[3 MARKS]**

(j) Root and tuber crops have agronomic disadvantage. Explain **[3 MARKS]**

(k) Explain FOUR advantages associated with planting potato on ridges **[4 MARKS]**

(l) Describe the FIVE stages you will consider as indicators for deciding when to harvest sesame **[5 MARKS]**

SECTION B (40 MARKS)

Answer ANY TWO questions in this section

2a. Describe TEN recommended green manuring practices for field crops **[10 MARKS]**

2b. Describe the listed traits for the three species of rice in the Table below **[10 MARKS]**

Characteristics	***O. indica***	***O. japonica***
1. Plant height		
2. Leaves		
3. Tillering		
4. Grain		
5. Shattering		

3a. Explain the importance of water management for optimum performance of potato crop **[10 MARKS]**

3b. Describe the characteristics of the following maize kernels **[10 MARKS]**

(a) **Flint Corn (Zea mays indurata):**

(b) **Pop Corn (Zea mays everta):**

(c) **Sweet Corn (Zea mays saccharata):**

(d) **Floor Corn or Soft Corn (Zea mays amylacea):**

(e) **Waxy Corn (Zea mays ceretina kulesh):**

4a. What are the FOUR main reasons for using sesame in rotation with cotton, maize, groundnut, wheat, and sorghum? **[10 MARKS]**

4b. Write the classification and centers of origin of the following field crops **[10 MARKS]**

No	Scientific name	Common name	Classification
1.	*Triticum aestivum*		
2.	*Linum usitatissimum*		
3.	*Gossypium herbaceum*		
4.	*Glycine max*		
5.	*Sorghum bicolor*		
6.	*Manihot esculenta*		
7.	*Zea mays*		
8.	*Solanum tuberosum*		
9.	*Oryza sativa*		
10.	*Hordeum vulgare*		
11.	*Cajanus cajan*		
12.	*Cicer arietinum*		
13.	*Vigna unguiculata*		
14.	*Arachis hypogaea*		
15.	*Eleucine coracana*		
16.	*Oryza glaberrima*		
17.	*Phaseolus vulgaris*		
18.	*Ipomea batatas*		
19.	*Vigna radiata*		
20.	*S. indicum*		