



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**THIRD YEAR SECOND SEMESTER UNIVERSITY EXAMINATION FOR THE
DEGREE OF BACHELOR OF AGRIBUSINESS MANAGEMENT**

**2019/2020 ACADEMIC YEAR
SPECIAL/RESIT**

COURSE CODE: APT 3321

COURSE TITLE: Perennial Crops

EXAM VENUE:

STREAM: BSc. Agribusiness Management

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. Answer TRUE or FALSE **[10 MARKS]**

- (a) Perennial-integrated agriculture offers year-round soil protection; and lack of soil disturbance
- (b) Shallow rooting system of perennials leads to less organic material and reduced soil quality
- (c) Perennials have reduced nutrient availability, and less-efficiency due to their shallow roots
- (d) Perennial-integrated agriculture is characterized by increased water infiltration, and more effective water cycle in soil
- (e) There is greater potential for carbon loss through tillage and erosion in perennial-integrated agriculture
- (f) The disadvantages of perennial-integrated agriculture include increased labour and increased productive inputs
- (g) Perennial-integrated agriculture offers flexibility to adopt novel farming systems which can increase diversity, reduce risk, and redirect labor to livelihoods
- (h) Biennial plants perform their entire life cycle from seed to flower within a single growing season
- (i) Perennials require increased fertilizer and energy inputs and so more financial investment
- (j) Domestication of perennials did not lead to severe genetic bottleneck

2. What is perennial agriculture? Give FOUR reasons why perennial agriculture is important **[5 MARKS]**

3. Name TWO crops for each of the following types if perennial crops **[5 MARKS]**

- (a) Fruits:

- (b) Forages:
- (c) Vegetables:
- (d) Herbs:
- (e) Oilseeds:

4. Describe FIVE cultural and agronomic methods for control of parasitic nematodes in tea plantation [5 MARKS]

5. List FIVE fungal diseases of alfalfa and their causative agents [5 MARKS]

SECTION B (40 MARKS)

Answer ANY TWO questions in this section

7a. Describe FIVE climatic requirements of cashew nut [10 MARKS]

7b. Describe FIVE main objectives of pineapple breeding [10 MARKS]

8. Describe the TEN steps from harvest to packaging of processed tea leaves in Kenya for export [20 MARKS]

9. Describe EIGHT differences between Arabian coffee and Robusta coffee [20 MARKS]

No	Arabian coffee	Robusta coffee
1.		
2.		

3.		
4.		
5.		
6.		
7.		
8.		