



COLLEGE OF AGRICULTURE, FISHRIES AND FORESTRY

SCHOOL OF AGRICULTURE & FORESTRY

DEPARTMENT OF CROP SCIENCE

BACHELOR OF SCIENCE IN AGRICULTURE YEAR 3

AGO 704: Farming Systems and Sustainable Agriculture

Trimester- 2, 2019 Final Examination

DURATION: 3 HOURS

INSTRUCTIONS TO STUDENTS

1. You are allowed 10 minutes extra reading time in which you are not permitted to write.
2. This paper consists for 3 (Three) pages. Please check to see that your paper is complete.
3. Printed or written material is not allowed in examination hall.
4. Answer all the questions in the answer booklet. Number your answers correctly in the answer booklet.
5. Attach all the sheets used as your answer paper in their correct sequence and secure with a string.
6. Use both sides of the answer sheet and write your candidate number on each sheet.

SECTION	PARTICULARS	TOTAL MARKS
A	Short answer questions	40
B	Long answer questions	30
	Total	100

SECTION –A

There are three parts in this section. In your answer booklet write the question number followed by the answer.

Part 1: Answer any Five (5) of following questions.

(5×3= 15 Marks)

- 1) Provide a brief note on economic effects of cyclones on agriculture.
- 2) What are adverse effects of modern high- input agriculture?
- 3) Analyse major factors affecting the ecological balance and sustainability of agricultural resources.
- 4) LER of an intercropping system is 1.43. Analyse the statement in brief.
- 5) Provide a brief note on sustainable ways of nutrient management.
- 6) Provide a brief note on climate smart agriculture practices.
- 7) Apply concept of sustainable agriculture in adapting climate change.

Part 2: Provide short notes on any Five (5) of following.

(5×3= 15 Marks)

1. Deforestation
2. Seawater inundation
3. Eutrophication
4. Shifting cultivation
5. Climate change
6. Cropping system
7. Integrated farming system
8. Soil alkalization
9. Ground Water table
10. REDD+

Part 3: Processes affecting the ecological balance and sustainability of agricultural resources are given in the table. Select and write two examples of the processes for each factor.

(10×1=10 Marks)

Eutrophication, Fertilizer pollution, Soil degradation, Deforestation, Accelerated soil erosion, Siltation of reserves, Wind erosion, Rise in groundwater table, water logging, Soil salinization, Soil alkalization, Over-exploitation of groundwater, Pesticide pollution, Greenhouse effect, Depletion emissions, Methane emission,			
Sl.no.	Factors	Processes	
		Example 1	Example 2
1	Environmental pollution		
2	Soil water related problems		
3	Irrigation related problems		
4	Indiscriminate use of agro-chemicals		
5	Soil related problems		

SECTION-B (Long answer questions)

(5x12=60 Marks)

Answer any Five (5) questions from the following. Each question carries 12 marks.

1. What is the concept of farming system? What are the various objectives of farming system? Analyse these objectives in detail.
2. What is sustainable agriculture? Provide a detail note on current concept of sustainable agriculture.
3. Yields of tomato and cowpea grown, as pure crops are 1,350 and 1,150 kg/ha, respectively. Yields of these crops when grown as intercrop are 1,100 and 900 kg/ha, respectively. Carry out calculation of land equivalent ratio of tomato + cowpea intercropping system.
4. What is underground water? Carry out a detail analysis how ground water and surface water are connected in nature.
5. Fertilizers and agrochemicals are potential sources of pollution. Provide detail analyses of statement.
6. What do you understand by ecological balance? Provide a list of major factors affecting the ecological balance and carryout detail analysis of any two.
7. What is over draft of ground water? Provide a detail on how artificial recharge of ground water is helpful in reducing overdraft problem of groundwater.

THE END