



COLLEGE OF AGRICULTURE, FISHERIES AND FORESTRY (CAFF)

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF CROP PRODUCTION

Bachelor of Education (Secondary) Agriculture Science Year 2

AGO 701 (Farming Systems and Sustainable Agriculture)

Date of Examination:

Time:

FINAL EXAMINATION TRIMESTER- 2, 2017

DURATION 3 HOURS

(An extra 10 minutes reading time in which you are NOT permitted to write)

INSTRUCTIONS TO STUDENTS

1. This paper consists for 04 pages. Please check to see that your paper is complete.
2. Printed or written material is not allowed in examination hall.
3. Answer all the questions in the answer booklet. Number your answers correctly in the answer booklet.
4. Attach all the sheets used as your answer paper in their correct sequence and secure with a string.
5. Use both sides of the answer sheet and write your candidate number on each sheet.

SECTION	PARTICULARS	TOTAL MARKS	THE ALLOCATIONS
A	Part 1: True and False Part 2: Fill in the Blanks	30	30 minutes
B	Short answers	30	60 minutes
C	Long answers	40	90 minutes
	Total	100	

SECTION –A

There are two parts in this section. All the questions are compulsory. In your answer booklet write the question number followed by the answer.

Part 3: True or False

(20×1 =20 Marks)

1. Green manuring is a cheap alternative to the use of fertilizer phosphorus. (True/False)
2. Rice/paddy fields are source of greenhouse gas emission. (True/False)
3. Considerable variation and degree of intensity exists between cropping and fallow period within one cycle. (True/False)
4. Groundwater recycles readily (True/False)
5. Based on the 2009 Census, there are 65,033 farms in Fiji. (True/False)
6. Mixed cropping or intercropping is a widespread cropping practice in the tropics. (True/False)
7. In subsistence farming it is characteristic to produce first, food for home consumption before any consideration for cash crop. (True/False)
8. Lining of canals and water courses can reduce seepage losses of water. (True/False)
9. Choosing policies for agricultural development requires the use of information about the existing farming situation. (True/False)
10. Percolation is the flow of water through soil and porous/fractured rock. (True/False)
11. Farms are systems because several activities are closely related to each other by the Common use of the farm labor, land and capital, by risk distribution and by the joint use of the farmer's management capacity. (True/False)
12. The ocean is the natural sink for groundwater flows. (True/False)
13. Of all of the Earth's water, only 3% is fresh water. (True/False)
14. Physical factors include all external conditions and influences affecting the life and development of an organism. (True/False)
15. Use of sound crop rotations is a principle of organic farming.
16. "Structural stability" is the ability of the soil to resist deformation when wet. (True/False)
17. Compost is bulky organic manure. (True/False)
18. The source of surface and ground water is rain. (True/False)
19. Clearance system is also a type of shifting cultivation. (True/False)
20. Farming system is a complex inter-related matrix of soil, plants, animals implements, power, labour, capital and other inputs. (True/False)

Part 2: Fill in the blanks with appropriate option provided below.

(10×1=10 Marks)

(Fallow system, Ley system, Integrated pest management, Permanent cultivation system, Migration systems, Rotation system, Climate change, Drought, 150, 300, Sustainable agriculture,)

1. refers to when the period of fallow is not long enough for the original soil fertility to be restored after cropping and not short enough for stationary farming.
2. involves alternating a field planted with crops for a number of years with a planted fallow used for growing hay for another number of years, after which it is again used for cropping.
3. In cropping of the field becomes more intensified and the period of fallow more shortened or eventually absent.
4.farming household moved with their household as transportation of produce (e.g. root crops) becomes problematic.
5.a definite number of fallow years often follow a definite number of years of cropping in a regular sequence.
6. To combatthere is need to match soils and land-use potential with suitable crop species.
7.increases the risk of forest, crop and grass fires.
8. The symbol R is the number of years of cultivation divided by the length of the cycle of land utilization multiplied by 100. An R value of would indicate that 50% of the area is carrying two crops a year.
9. A system is one that can indefinitely meet demands for food and fibre at socially acceptable, economic and environment cost'.
10. is a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in way that minimizes economic, health and environmental risks.

SECTION- B (Short Answers)

(6×5= 30 Marks)

Answer any six of the following questions. Each question carries 5 marks.

- 1) What are elements of sustainability in agriculture?
- 2) Analyse advantages and disadvantage of shifting cultivation.
- 3) Provide a brief information on traditional cropping systems in pacific.
- 4) What is significance of forests for ecological balance?
- 5) Apply control measures to reduce pesticide pollution in water bodies.
- 6) Demonstrate methane emission from rice field with suitable diagram.
- 7) Provide a brief on objectives of pacific farming systems.
- 8) Provide a brief classification of farms on the basis of water supply.

SECTION-C (Long answers)

(4x10=40 Marks)

Answer only five from the following questions. Each question carries 8 marks.

1. Analyse need of combating the impacts of climate change in PICTs in detail.
2. What is sustainable agriculture? Apply current concept of sustainable agriculture.
3. Fertilizers and Agrochemicals are potential source of pollution. Analyse the statement in detail.
4. What is deforestation? Carry out a detailed analysis on effects of deforestation in detail.
5. Analyse key pacific farming systems in detail.
6. Provide characteristics of the small-scale tropical farming systems in detail.

THE END