



FIJI NATIONAL UNIVERSITY

**COLLEGE OF AGRICULTURE, FISHERIES AND FORESTRY (CAFF)
SCHOOL OF AGRICULTURAL SCIENCES AND FORESTRY
BACHELOR OF EDUCATION (SECONDARY) IN AGRICULTURAL SCIENCE**

SAC 602 MANURES AND FERTILIZERS

Trimester 2, 2018

FINAL EXAMINATION

TOTAL MARKS: 100

TIME DURATION: 3 HOURS

INSTRUCTIONS TO STUDENTS

1. This paper consists for 05 pages. Please check to see that your paper is complete.
2. You are allowed 10 minutes extra reading time in which you are NOT permitted to write.
3. Attach all the sheets used as your answer paper in their correct sequence and secure with a string.
4. Use both sides of the answer sheet and write your candidate number on each sheet.
5. Write clearly the number(s) of the question(s) attempted on the top of each sheet.

MOBILE PHONES ARE STRICTLY NOT ALLOWED

SECTION	PARTICULARS	TOTAL MARKS	THE ALLOCATIONS
A	Part 1: Multiple Choices Part 2: Fill in the Blanks Part 3: Matching Part 4: Fill in examples	40	40 minutes
B	Short answers	20	50 minutes
C	Long answers	40	90 minutes
	Total	100	

SECTION -A

There are four parts in this section. All the questions are compulsory.

Part 1: Multiple choice question

(10X 1.5=15 Marks)

1. Commercial Fertilisers are available mostly in the form of _____.
 - a) powder
 - b) liquid
 - c) lumps
 - d) none
2. Calcium ammonium nitrate (CAN) is _____.
 - a) a straight fertiliser
 - b) a complex fertiliser
 - c) complex and amide fertiliser
 - d) not a fertilizer
3. The most quickly available source of nitrogen to plants are _____.
 - a) amide fertilizers
 - b) ammonia fertilizers
 - c) nitrate fertilizers
 - d) ammonia nitrate fertilizer
4. Element required in largest quantity by plants _____.
 - a) sulfur
 - b) copper
 - c) potassium
 - d) nitrogen
5. Maximum nitrogen percentage is in _____.
 - a) calcium ammonium nitrate.
 - b) Urea
 - c) ammonium sulphate
 - d) liquid ammonia.
6. If nitrogen is main element of fertilizers then fertilizers are classified as _____.
 - a. structural fertilizers
 - b. non-structural fertilizers

- c. nitrogen fertilizers
- d. respiratory fertilizers

7. Organic fertilizers can be derived from _____.

- a. animal materials
- b. carbon materials
- c. plant materials
- d. both a and c

8. Which of the following nutrient replenish the soil after growing leguminous plants?

- a. Nitrogen
- b. Oxygen
- c. Phosphorus
- d. Potassium

9. Excess of nitrogen fertilizers leads to _____.

- a. pest problems
- b. growth problems
- c. fruiting problems
- d. flowering problems

10. Organic fertilizers includes _____.

- a. manure and compost
- b. sulfur and gypsum
- c. rock phosphate and compost
- d. magnesium and phosphorus

Part 2: Fill in the blanks with appropriate answer.

(10X1=10 Marks)

1. _____ is an example of amide fertilizer.
2. _____ is a complex fertilizer.
3. _____ fertiliser contains the least percentage of nitrogen .
4. _____ handling and storage leads to losses of plant nutrients from the manures.
5. Increase in soil _____ improves overall soil quality.
6. _____ is immobile in plant tissues so its deficiency occurs in older leaves.

7. _____ is the nutrient responsible for pungency and flavor in onion, garlic and mustard.
8. The deficiency symptom of _____ occurs at high pH, while toxicity occurs at low pH.
9. _____ placement of ammoniacal nitrogenous fertilizers in the reduction zone of soil.
10. _____ spreading fertilizers uniformly all over the field.

Part 3: State True or False

(5X 1=5 Marks)

1. Manures contain large quantities of organic matter but very small quantity of plant nutrients.
2. A straight fertiliser contains only one nutrient.
3. The phosphorous nutrient makes the plant stem stronger and increases its branches.
4. Nitrogen content in ammonium sulphate (a fertiliser) is around 55% percent.
5. NPK fertiliser is a mixed fertiliser.

Part 4: Fill in the Column B with at least 2 examples

(10 X 1=10 Marks)

Sl. No.	Column A		Column B
1	Potassic fertilizer		
2	Bulky organic manure		
3	Concentrated manure		
4	Nitrogenous fertilizer		
5	Straight fertilizer		
6	Phosphorus fertilizer		
7	Green Manure		
8	Complex fertilizer		
9	Amide fertilizer		
10	Bio fertilizer		

Section-B

Short answers

(4 X5=20 Marks)

- 1) What are the average plant nutrients of N P K in F Y M and compost.
- 2) Define the vermicomposting.
- 3) List down micronutrients fertilizers and method of application.
- 4) Compare the straight and complex fertilizer with examples.

Section-C

Long answers

(4 X10=40 Marks)

Answer four (4) questions from the following.

1. What are the features of green manure crops? Describe the practice of green manuring?
2. Define the vermicomposting and describe the method of vermicomposting.
3. Compare properties of major nitrogenous and phosphorus fertilizer in detail.
4. Describe any one method of composting and its impact on soil fertility management.
5. Classify the nitrogenous fertilizers. Describe their important characteristics and per cent content of nitrogen

THE END