FIJI NATIONAL UNIVERSITY

COLLEGE OF AGRICULTURE, FISHERIES AND FORESTRY (CAFF)

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF CROP PRODUCTION

BACHELOR OF SCIENCE IN AGRICULTURE YEAR I

AGO 505 (Organic Farming)

Date of Examination: **Time:**

FINAL EXAMINATION TRIMESTER- 3, 2016

DURATION 3 HOURS
(An extra 10 minutes reading time in which you are NOT permitted to write)

INSTRUCTUCTIONS TO STUDENTS

1. This paper consists for 4 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
A	**Part 1: Multiple Choices** **Part 2: True and False** **Part 3: Fill in the blanks**	20
B	**Short answer questions**	10
C	**Long answer questions**	20
	Total	50

SECTION –A

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

Part 1: Multiple Choices. Pick the correct answer. (10×1=10 Marks)

1. The term organic farming was coined by_____.

   A. Rudolf Steiner B. Rachel Carson
   C. Lord Northbourne D. Sir Albert Howard

2. _____ water is required for satisfactory decomposition of composting material.

   A. 20-30% B. 30-45%

   C. 50-60% D. 40- 45%

3. Green- manuring in situ refers to:

   A. growing and burying of a green manure crop in the same field as the one to be manured.
   B. growing and burying of a green manure crop in the different field as the one to be manured.

4. Seed rate of *sesbenia* green manure crop is_____Kg/ha.

   A. 15-20kg/ha B. 40-55kg/ha
   C. 40-50kg/ha D. 30-40kg/ha

5. Mature compost has a pH value of_____.

   A. 7.0-8.5 B. 6.0-8.4
   C. 5.5-6.7 D. 7.0- 7.8

6. The following is one of the nitrogen firing biofertilizers.

   A. *Azotobacter* B. *Penicillium*
   C. *Bacillus Pseudomonas* D. *Gigaspora*

7. FYM becomes ready for field application after _____ months.

   A. 5-6 months B. 3-4 months
   C. 6-7 months D. 2-3 months

8._____ is an important species of blue green algae.

A. *Anabaena* B. *Pongamia glabra*

C. *Azospirillum* D. None of the above

9. White mustard (*Sinapis alba*) is also referred to as _____ .

A. *Brassica. hirta* B. *Azadiracta indica*
C. *Pongamia glabra* D. *Trifolium subterraneum*

10. General dosage of bio fertilizers for pulses, oilseeds and vegetables is_____.

A. 8-10kg/ha B. 3kg/ha
C. 2kg/ ha D. 5kg/ha

Part 2: Mark True or False. (5×1 =5 Marks)

1. Manures having undecomposed weed seeds should not be applied onto the farm.
2. Air flow in criteria for composting is 0.6-1.9m^3/day/kg.
3. In anaerobic composting decomposition occurs where oxygen is absent or in limited supply.
4. Carbon rich inorganic wastes are known as ''browns''.
5. Conventional farming is based on ecological orientation.

Part 3: Fill in the blank. (10×0.5=5 Marks)

1. IFOAM stands for_____.
2. Composting will be most rapid if the decomposers are fed a mix of_____.
3. _____ is the process of enrichment of surface water bodies like lakes, reservoirs and streams with nutrients.
4. Decomposed mixture of cattle dung and urine with straw and litter used as bedding material and residues from the fodder fed to cattle is known as _____.
5. Nitrogen rich organic wastes are known as_____.
6. _____is a bacterium having the capacity to form morphologically well-defined nodules on the roots of leguminous plants.
7. Azospirillum could be isolated from the_____of tropical grass.
8. _____is a microbiologically well decomposed black to brown amorphous organo-mineral product.
9. The British botanist _____is often referred to as the father of modern organic agriculture.
10. _____is a technique to grow *sesbania* in standing rice crop and kill them with the help of herbicide for manuring.

SECTION- B (Short Answer Questions) (5×2= 10 Marks)

Answer all the questions. Each question carries 5 marks.

1. What are bio fertilizers? Give suitable example.
2. List factors influencing the quality of FYM?
3. Define eutrophication? Enlist its effects on agriculture.
4. Differentiate between conventional and organic farming?
5. What are the advantages of including green manure crops in crop rotation?

SECTION-C (Long answer Questions) (4+8+8=20 Marks)

Answer only **three** from the following questions. Question 1 is compulsory for all.

1. Give reason of following. (4 marks)
   (i) To collect compost from the pit, pit is left without watering for about 3 days. Why?
   (ii) Aerobic composting is more efficient and useful than anaerobic composting for agriculture. Why?
   (iii) Burning of crop residues in field is not recommended. Why?
   (iv) In rainfed condition green manure crops will not decompose readily. Why?

2. What are green manures? Enlist and discuss characteristics of green manure crops. (8 marks)

3. Write an essay on weed management in organic farming. (8 marks)

4. Define organic farming. What are various benefits of organic farming? Enlist limitations of organic farming. (8 marks)

5. Enlist and discuss various organic vegetable growing techniques. (8 marks)

THE END