



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, 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 05 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	40
B	Short answer questions	20
C	Long answer questions	40
	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.

(15×1=15 Marks)

1. _____ is a microbial degradation process that converts organic matter to a stable humus like product under controlled conditions.
A. Mulching B. Vermicomposting
C. Composting D. None of these
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 ex- 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.
C. Both A and B
D. None of these
4. Seed rate of *Crotalaria* 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 C: N ratio value of _____
A. <12:1 B. 20:1
C. 30:1 D. None of these
6. The following is one of the nitrogen fixing 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
11. _____ is accounting maximum organic land in world (22.7 million hectare).
- A. Australia B. Argentina
 C. USA. D. None of these
12. Name of the Island in the Lau Group has been declared an organic island (Ministry of Agriculture, Fiji).
- A. Cicia B. Mana
 C. Taveuni D. None of these
13. _____ is a microbial degradation process that converts organic matter to a stable humus like product under controlled conditions.
- A. Mulching B. Vermicomposting
 C. Composting D. None of these
14. The term organic farming was coined by _____.
- A. Rudolf Steiner B. Rachel Carson
 C. Lord Northbourne D. Sir Albert Howard
15. General method of green manure sowing is _____.
- A. Transplanting B. Linesowing
 C. Broadcasting D. None of these

Part 2: Mark True or False.

(15×1 =15 Marks)

1. Weeds can be used as a green manure crop.
2. Legumes are popular choice for green manure, as they form nitrogen fixing nodules on their roots.
3. Green manure crops will not decompose readily due to lack of water.
4. Bio-fertilizers are not fertilizers.
5. Blue Green Algae and Azolla bio- fertilizer is only effective in submerged rice.
6. Manures having undecomposed weed seeds should not be applied onto the farm.
7. Air flow criteria for composting is $0.6-1.9\text{m}^3/\text{day}/\text{kg}$.
8. In anaerobic composting decomposition occurs where oxygen is absent or in limited supply.
9. Carbon rich inorganic wastes are known as “browns”.
10. Conventional farming is based on ecological orientation.
11. Following crop rotation is useful tool in organic weed management.
12. Materials as straw, bark, and composted material can provide effective weed control as mulch in organic farming.
13. Allelopathy is commonly regarded as component of biological control.
14. Maintaining a healthy and living soil is one of the ideals of organic farming.
15. Nitrogenous wastes are generally green in colour.

Part 3: Fill in the blank.

(10×1=10 Marks)

1. Bio-fertilizer packets need to be stored in _____ away from direct sunlight and heat.
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. Carbon rich organic wastes are known as _____.
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) (5×4= 20 Marks)

Answer all the questions. Each question carries 4 marks.

1. Differentiate between conventional farming and organic farming.
2. What are bio fertilizers? Appraise bio- fertilizers with suitable example.
3. Categories factors influencing the quality of compost.
4. What are some of the limitations of organic farming?
5. What are the advantages of including green manure crops in crop rotation?

SECTION-C (Long answer Questions)

(4x10=40 Marks)

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

1. Give reason of following. (4x2.5=10)
 - (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? Discuss desirable characteristics of green manure crops. (10 marks)
3. Write an essay on weed management in organic farming. (10 marks)
4. Appraise organic farming. What are various benefits of organic farming? Analyse and discuss limitations of organic farming in detail. (10 marks)
5. Analyse and discuss various organic vegetable growing techniques. (10 marks)
6. Appraise problems and prospect of organic farming in developing countries. (10)

THE END