



GIET UNIVERSITY, GUNUPUR – 765022

B. Sc (AG) (Sixth Semester) Examinations, June – 2021

AG 246 - Farming System & Sustainable Agriculture

Time: 2 hrs

Maximum : 50 Marks

The figures in the right hand margin indicate marks.

PART – A

Q.1. Fill in the blanks with suitable word / figure. (0.5 x 10 = 5 Marks)

- a. The father of conservation tillage is _____.
- b. The opposite of carbon dioxide emission is called _____.
- c. The areas which suffer from non-availability of groundwater due to perennial overdraft are known as _____.
- d. The process of silica leaching under hot and moist climatic condition is called _____.
- e. One litre of diesel on combustion releases _____ kg CO₂ into the atmosphere.
- f. An agroforestry system that integrates the tree component with fruit trees and grasses is called _____.
- g. The process that lowers the current and/or future capacity of soil to support human life is called _____.
- h. The methane emission from lowland paddy fields in the form of bubbles is called _____.
- i. GPS receives satellite signals to calculate _____, _____, and _____ of a place.
- j. Overlaying of different specific purpose maps can be done efficiently by _____ techniques.

Q. 2. Define / explain the following in one or two sentences. (1 × 5 = 5 Marks)

- a. Conservation agriculture
- b. Sustainable agriculture
- c. Precision farming
- d. HEIA
- e. Resource recycling

Q3. Choose the most appropriate answer from the following. (0.5 x 10 = 5 Marks)

- a. A marginal farmer has a land holding size of

(i) Less than 0.4 ha	(ii) Less than 1.0 ha
(iii) More than 1.0 ha but less than 2.0 ha	(iv) More than 2.0 ha but less than 5.0 ha
- b. Unit of integrated farming system is

(i) household	(ii) hectare
(iii) number of livestock	(iv) number of components
- c. Which of the following is NOT a farming method that is used to make agriculture sustainable?

(i) Conserving water	(ii) Limiting fertilizer use
(iii) Limiting pesticide use	(iv) Growing one type of crop
- d. What are the biological factors affecting farming system among the following?

(i) Topography	(ii) Livestock
(iii) Education	(iv) Rainfall

- e. Suggest the best allied enterprise to a pond based farming system.
- | | |
|--------------------|--------------|
| (i) Poultry | (ii) Duckery |
| (iii) Horticulture | (iv) Dairy |
- f. Which of the following is the socio economic factor of farming system?
- | | |
|------------------------|--------------------|
| (i) Family composition | (ii) Education |
| (iii) Food preference | (iv) All the above |
- g. Phytoplankton stands as a necessary term in
- | | |
|------------------|----------------|
| (i) Sericulture | (ii) Fisheries |
| (iii) Apiculture | (iv) Dairy |
- h. Which of the following is NOT a component of IFS?
- | | |
|-------------------|-------------------|
| (i) Apiculture | (ii) Agroforestry |
| (iii) Sericulture | (iv) Vermiculture |
- i. Bio-gas generation is the function of
- | | |
|--------------------------|-----------------------------------|
| (i) Methane availability | (ii) CO ₂ Availability |
| (iii) Dung availability | (iv) Slurry availability |
- j. Which of the following is an environmental benefit of sustainable agriculture?
- | | |
|---------------------------|---------------------------------|
| (i) More fossil fuel use | (ii) Soil quality is maintained |
| (iii) Increase in erosion | (iv) Decreased biodiversity |

Q4. Write True or False against each statement

(0.5 x 10 = 5 Marks)

- Diversified farming system is otherwise known as specialized farming.
- Input use efficiency is one of the major objectives of farming system.
- Specialized farming system is aimed at maximization of production
- Integrated farming system leads to low benefit-cost ratio.
- Primary product of biogas is methane.
- Growing two or more crops on the same piece of land simultaneously is called sequence cropping.
- Integrated farming system is otherwise known as family farming.
- Organic farming does not come under sustainable agriculture.
- Jersey cow comes under the category of exotic breed.
- Indicators of sustainability help us to identify, quantify and evaluate the effects of agriculture.

PART – B

Attempt ANY FIVE questions. All question carries equal marks

(6 × 5 = 30 Marks)

- Enumerate principles, needs and major benefits of conservation agriculture.
- Describe the criteria of sustainability in agriculture. What are the potential threats to sustainable agriculture?
- What are the ecological principles taken into consideration in designing a farming system? Show diagrammatically the recycling of resources in a crop-livestock-poultry-fishery farming system.
- Mention the enterprises suitable for rainfed conditions with justifications. Give the advantages of integrated farming system.
- Briefly describe the key mitigation technologies in agriculture.
- How does farming system differ from mix farming? Describe the factors affecting the composition of an integrated farming system.

--- End of Paper ---