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GIET UNIVERSITY, GUNUPUR – 765022

B. Sc. (Ag) (Fourth Semester) Examinations, June' 2021

AG- 226 – Farming Systems and 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 × 10 = 5 Marks)**

- Growing two or more crops on the same piece of land simultaneously with definite row pattern is called as _____.
- A marginal farmer has a land holding size of _____.
- Grazing of animals on public field is known as _____.
- One litre of diesel on combustion releases _____ kg CO₂ into the atmosphere.
- The opposite of carbon dioxide emission is called _____.
- An agroforestry system that integrates the tree component with herbaceous crops is called _____ system.
- The methane emission from lowland paddy fields in the form of bubbles is called _____.
- The areas which suffer from non-availability of groundwater due to perennial overdraft are known as _____.
- The father of conservation tillage is _____.
- The process that lowers the current and/or future capacity of soil to support human life is called _____.

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

- Cropping index
- Alley cropping
- Zero tillage
- Apiculture
- Annidation

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

- Suggest the best allied enterprise to the farmers, when the main crop grown is rice.
 - Fishery
 - Sericulture
 - Apiculture
 - Biogas
- Which of the following is the objective of integrated farming system?
 - Input use efficiency
 - Recycling of by-products
 - Energy conservation
 - All of the above
- Phytoplankton stands as a necessary term in
 - Sericulture
 - Poultry
 - Fishery
 - Apiculture
- Farming system is which kind of enterprise among the following?

- | | |
|--------------------------|-----------------------------|
| (i) Dependent enterprise | (ii) Independent enterprise |
| (iii) Both A and B | (iv) None of the Above |
- e. Bio-gas generation is the function of
- | | |
|--------------------------|-----------------------------------|
| (i) Methane availability | (ii) Energy availability |
| (iii) Dung availability | (iv) CO ₂ availability |
- f. Which of the following is an environmental benefit of sustainable agriculture?
- | | |
|---------------------------|---------------------------------|
| (i) More fossil fuel use | (ii) Loss of biodiversity |
| (iii) Increase in erosion | (iv) Maintenance of soil health |
- g. Suggest the best allied enterprise to a pond based farming system.
- | | |
|-------------|--------------|
| (i) Dairy | (ii) Duckery |
| (iii) crops | (iv) Apiary |
- h. What are the biological factors affecting farming system among the following?
- | | |
|---------------------|-----------------|
| (i) Livestock | (ii) Topography |
| (iii) Social status | (iv) Education |
- i. IFS leads to
- | | |
|-----------------------------|------------------------------|
| (i) High benefit-cost ratio | (ii) High cost of production |
| (iii) Specialized farming | (iv) Mixed farming |
- j. Unit of integrated farming system is
- | | |
|-----------------|------------------------|
| (i) Hectare | (ii) Number of animals |
| (iii) Household | (iv) Pond area |

Q4. Write True or False against each statement

(0.5 × 10 = 5 Marks)

- Integrated farming system is otherwise known as family farming.
- Conservation agriculture does not come under sustainable agriculture.
- Jersey cow comes under the category of indigenous breed.
- Indicators of sustainability help us to identify, quantify and evaluate the effects of agriculture.
- Primary product of biogas is carbon dioxide.
- Growing two or more crops on the same piece of land simultaneously is called sequence cropping.
- Resource recycling 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.
- Diversified farming system is otherwise known as specialized farming.

PART – B

Attempt ANY FIVE questions. All questions carry equal marks

(6 × 5 = 30 Marks)

- What is adaptation? Enumerate the adaptation measures that the agricultural sector can undertake to cope with future climate change.
- What is LEISA? What are the promising LEISA Techniques and practices?
- Define conservation agriculture. What are the benefits of conservation agriculture?
- Describe the operational indicators for measuring agricultural sustainability.
- Describe the advantages of integrated farming systems.
- Define sustainable agriculture. What are the potential threats to sustainable agriculture?

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