Register No : _____

# THE KAVERY ENGINEERING COLLEGE

*(An Autonomous Institution)*

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

*Fifth Semester*

*Agricultural Engineering*

AI3017 - Integrated Farming System

*Regulations – 2021*

*Duration : 3 Hrs* *Maximum : 100 Marks*

*PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)*

| *Q.No* | *Questions* | *BLT* | *CO* | *Marks* |
|---|---|---|---|---|
| 1. | Define farming system. | RE | 1 | 2 |
| 2. | What is mixed farming? | RE | 1 | 2 |
| 3. | Primary objectives of IFS. | RE | 2 | 2 |
| 4. | IFS in garden land improve food security – Justify. | AP | 2 | 2 |
| 5. | What are the common parasites affecting livestock in an IFS? | UN | 3 | 2 |
| 6. | How can poultry manure be utilized effectively in crop production? | UN | 3 | 2 |
| 7. | What is azolla? | RE | 4 | 2 |
| 8. | What key practices should be followed in a small-scale nursery? | RE | 4 | 2 |
| 9. | What is vermicomposting? | RE | 5 | 2 |
| 10. | List out gases present in biogas. | RE | 5 | 2 |

*PART – B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)*

| *Q.No* | | | *Questions* | *BLT* | *CO* | *Marks* |
|---|---|---|---|---|---|---|
| 11. | a | i | Write about environmental factors, economic factors and social factors influence on successful farming system. | UN | 1 | 9 |
| | | ii | Give a detailed discussion on advantages and limitations of farming system. | UN | 1 | 4 |
| | | | Or | | | |
| | b | i | Explain the various principles and concepts responsible for effective farming systems. | UN | 1 | 8 |
| | | ii | Classify the different types of farming systems and how do they differ? | UN | 1 | 5 |
| 12. | a | i | Explain IFS models suitable for garden land condition with examples. | UN | 2 | 7 |
| | | ii | Explain IFS model for dryland and explain the resource flow. | UN | 2 | 6 |
| | | | Or | | | |
| | b | i | Integrated Farming Systems in fallow land help restore soil fertility and productivity – Explain. | UN | 2 | 5 |
| | | ii | Explain about IFS contribution on improved resource efficiency in agriculture and how IFS enhance farm income and sustainability? | UN | 2 | 8 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 13. | a | i | Integrating dairy farming with crops enhance overall farm productivity – Explain the sentences with detailed discussion. | UN | 3 | 7 |
| | | ii | Classify the types of fodder crops beneficial for integration in IFS and write about package of practices to achieve higher yield in various fodder crops. | UN | 3 | 6 |
| | | | Or | | | |
| | b | i | Give a detailed account on advantages and housing requirements of duck and rabbit farming in IFS. | UN | 3 | 8 |
| | | ii | Write an essay about key considerations for raising young stock in IFS. | UN | 3 | 5 |
| 14. | a | i | What do you understand by aquaculture? and write lucid essay on rice + fish + azolla IFS. | RE | 4 | 5 |
| | | ii | What is organic farming? and discuss concepts and principles involved in organic farming. | RE | 4 | 8 |
| | | | Or | | | |
| | b | i | Show various key steps involved in silkworm rearing. | RE | 4 | 7 |
| | | ii | What is mulberry cultivation? and elaborate its significance in sericulture. | RE | 4 | 6 |
| 15. | a | i | Discuss the challenges and opportunities associated with integrating mushroom production into an existing IFS, including market potential and resource requirements. | CR | 5 | 7 |
| | | ii | Outline the process of preparing vermicompost from farm residue and detailing the key steps and considerations for successful composting. | CR | 5 | 6 |
| | | | Or | | | |
| | b | i | Discuss the key features of biogas systems, including their design, efficiency, and environmental impacts. | CR | 5 | 7 |
| | | ii | Discuss the importance of resource recycling in wetland IFS and its impact on ecosystem sustainability. | CR | 5 | 6 |

*PART – C (Marks 1*15 = 15)*

| *Q.No* | | | *Questions* | *BLT* | *CO* | *Marks* |
|---|---|---|---|---|---|---|
| 16. | a | i | Explain the resource flow dynamics in IFS that incorporates crops, dairy, biogas production, spawn cultivation, and silviculture and write about interdependencies among these components | UN | 2 | 8 |
| | | ii | Explain the principles and practices of resource recycling in IFS with crops and goat farming and how does this integration benefit soil health and farm productivity? | UN | 5 | 7 |
| | | | Or | | | |

| | | | | | |
|---|---|---|---|---|---|
| b | i | Write a brief note on the following:<br>1. Housing systems for pigs in IFS<br>2. Nutritional requirements for pigs in IFS<br>3. Health management practices critical for successful pig farming in IFS | UN | 3 | 9 |
| | ii | What is agroforestry system? and write a detailed note on different types of agroforestry system used in IFS for productivity enhancement | UN | 4 | 6 |