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Question Paper Code: R3A04

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2025

Third Semester

Agricultural Engineering

R21UAG304 – INTEGRATED FARMING SYSTEM

(Regulations R2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Dry spell is most common in which type of farming system? CO1-U
(a) Dry farming (b) Dry land Farming (c) Rainfed Farming (d) Irrigated Farming
2. Vertical farming also known as..... CO1-U
(a) Stack farming (b) Step farming (c) Subsistence farming (d) All the above
3. Which enterprises are most suitable in dry land ecosystem? CO1-U
(a) Sericulture (b) Goat rearing (c) Mushroom (d) Apiary
4. Identify the incorrect one related to IFS in wet land CO1 – U
(a) Farm pond (b) Mushroom (c) Fishery (d) All the above
5. Protein content in azolla CO1 – U
(a) 25-30% (b) 20-25% (c) 30- 35% (d) 15- 25%
6. Wax gland is present in..... CO1 – U
(a) Queen bee (b) Worker bee (c) Drone bee (d) All the above
7. Which breed is exclusively meant for pulling carts and ploughing fields but the cows are poor milkers CO1 – U
(a) Sahiwal (b) Nagore (c) Tharparkar (d) Red sindhi
8. is the name of female pig CO1 – U
(a) Sow (b) Boar (c) Bull (d) Both ((a) and ((b)

9. Vermicompost is a CO1 – U
 (a) Toxic material (b) Organic biofertilizer
 (c) Inorganic fertilizer (d) Synthetic fertilizer
10. The umbrella shaped fruiting body above the stipe called CO1 – U
 (a) Cap (b) Ring (c) Cup (d) Both (b) and (c)

PART – B (5 x 2= 10 Marks)

11. What are the differences between intercropping and mixed cropping, and how do these practices affect farming outcomes? CO1 – U
12. Write advantages of integrated farming system? CO1 - U
13. What are the advantages of adopting agroforestry systems, and how do they benefit both the environment and farming practices? CO1 – U
14. Explain the classification of cattle breeds in India based on their utility. Give examples for each category CO1 – U
15. What are the advantages of using vermicompost in agriculture? Explain how it contributes to soil health and plant growth. CO1 – U

PART – C (5 x 16= 80 Marks)

16. (a) Explain the following farming system CO1 – U (16)
 i. Plantation agriculture
 ii. Dry-farming
 iii. Dry land farming
 iv. Rainfed farming

Or

- (b) Explain Precision farming, Dry Farming, Dryland Farming, and Rainfed Farming with examples, covering their definitions, climatic conditions, common practices, and associated challenges. CO1 – U (16)
17. (a) A farmer wants to implement an Integrated Farming System (IFS) to increase profitability and ensure year-round resource utilization. Suggest suitable components for the IFS model, and explain how any three of them can be effectively integrated to enhance income, minimize waste, and promote sustainability. CO3 – App (16)

Or

- (b) How could integrating the farming system associated with wet land ecosystem to enhance the overall productivity and sustainability of the farm? CO3 – App (16)
18. (a) A beekeeper observes differences in the behavior and appearance of bees in the hive. Using your knowledge of honey bee biology, identify the three castes and explain how their morphological and internal differences relate to their specific roles in the colony. CO2 – App (16)
- Or
- (b) A farmer in a semi-arid region with degraded soil wants to improve farm productivity and income sustainability. Suggest an appropriate agroforestry system for this situation, and explain how it would address the environmental and economic challenges. CO2 – App (16)
19. (a) Analyze the integration of goat and sheep rearing in an Integrated Farming System. CO4 – An (16)
- Or
- (b) Assess the potential of integrating small livestock enterprises such as rabbit and piggery farming in an IFS model. CO4 – An (16)
20. (a) How the farm wastes are recycled in the following units crop + dairy + biogas + spawn + silviculture CO2 - App (16)
- Or
- (b) How would you approach the preparation of mushroom spawn using different methods, and what factors would you consider to ensure successful spawn development and quality? CO2 - App (16)

