

28. a.i. With neat sketch discuss the components of precision agriculture. 5 1 3 1
- ii. Describe the tools and techniques used in precision agriculture. 5 1 3 1
- (OR)
- b.i. Differentiate between meteorology and agricultural metrology. 5 3 3 2
- ii. Give the benefits of agricultural meteorology. 5 1 3 2
29. a. Write in detail about 2+4+4 1 4 2
- (i) List the component of drones
- (ii) State the applications of drones in agriculture
- (iii) Discuss the economic and regulatory issues of drones
- (OR)
- b. List down and explain the steps involved in crop management process. 10 1 4 2
30. a. Write in detail about smart agriculture driven by machine learning algorithm. 10 1 5 2
- (OR)
- b. Give the analysis of the plant and crop disease using support vector machine. 10 1 5 2

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B.Tech. DEGREE EXAMINATION, DECEMBER 2022
Sixth/ Seventh Semester

18CSE398T – IoT IN AGRICULTURE

(For the candidates admitted from the academic year 2018-2019 to 2019-2020)

Note:

- (i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
- (ii) **Part - B** should be answered in answer booklet.

Time: 2½ Hours

Max. Marks: 75

PART – A (25 × 1 = 25 Marks)

Answer **ALL** Questions

- | | Marks | BL | CO | PO |
|---|-------|----|----|----|
| 1. Crops grown using the winter water stored in soil rather than depending on rainfall during growing season is called
(A) Dry farmed crops (B) Winter crops
(C) Wetland crops (D) Rainy crops | 1 | 1 | 1 | 1 |
| 2. Phytosanitary certificate is used to indicate the
(A) License for aquaculture (B) License for acroponics
(C) Consignments of plants and (D) Consignments of seeds and plant products manures | 1 | 1 | 1 | 1 |
| 3. Rainwater harvesting produces sufficient water for the crop and also
(A) Reduces soil erosion (B) Reduces soil moisture levels
(C) Causes chemical deterioration (D) Soil degradation | 1 | 2 | 1 | 2 |
| 4. Cotton is an example of
(A) Dry farming (B) Rain fed farming
(C) Garden land farming (D) Integrated farming | 1 | 1 | 1 | 1 |
| 5. Crop production with livestock rearing is called
(A) Wetland farming (B) Shifting agriculture
(C) Subsistence farming (D) Mixed farming | 1 | 1 | 1 | 1 |
| 6. Paddy is an example of
(A) Grains (B) Millets
(C) Cereals (D) Pulses | 1 | 1 | 2 | 1 |
| 7. Crop scouting refers to
(A) Assessing the irrigation techniques (B) Assessing pest pressure techniques
(C) Assessing soil fertility (D) Assessing seed bed techniques | 1 | 1 | 2 | 1 |
| 8. In garden land farming the water is
(A) Lack of knowledge in watering techniques (B) Abundance of water supply
(C) Insufficient water (D) Under control | 1 | 2 | 1 | 1 |

9. Dry land farming receives an annual rainfall less than
(A) 600 - 700 mm (B) 500 - 600 mm
(C) 750 - 800 mm (D) 900 - 1000 mm
10. Factor that causes primary salinity is
(A) Saline minerals in the soil (B) Weak drainage system
(C) Conventional irrigation techniques (D) floods
11. Robot that exterminates pests and weeds is
(A) DIGITEUM (B) CROO
(C) RIPPA (D) AETHONS
12. Medium range weather forecasting is between
(A) 1-2 days (B) 4 days – 2 weeks
(C) 10 days – 4 weeks (D) 3 week – 5 weeks
13. Which of the following is not a fundamental component of an IoT system?
(A) Transformer (B) Sensors
(C) Connectivity and data processing (D) User interface
14. The role of cloud in smart grid architecture of IoT is
(A) Security (B) Manage data
(C) Data collection (D) Store data
15. Collection of WSNs placed over the ground to monitor the area is
(A) Terrestrial WSN (B) Underwater WSN
(C) Underground WSN (D) Mobile WSn
16. Which one of the following plant nutrients imparts resistance to diseases and insects?
(A) Potassium (B) Nitrogen
(C) Phosphorus (D) Calcium
17. Which of the following languages are used in writing Arduino IDE
(A) Java (B) C/C++
(C) JavaScript (D) Python
18. Kharif cropping season starts with the onset of
(A) Monsoon season (B) Winter season
(C) Summer season (D) Autumn season
19. Which of the following category of drones does not require registration for use in India?
(A) Micro category (B) Small category
(C) Nano category (D) Large category

20. Accumulation of soil carbon is an
(A) Advantage of reduced tillage (B) Advantage of conventional tillage
(C) Disadvantage of over irrigation (D) Disadvantage of overuse of pesticides
21. _____ are preferred to solve non-convex unconstrained optimization
(A) Support vector machines (B) DFS
(C) BFS (D) Kruskal algorithm
22. The process of moving the data processing task close to the source as possible to reduce the overall traffic to cloud is
(A) Fog computing (B) Quantum computing
(C) Neuro computing (D) Edge computing
23. Robotics and _____ help in mitigating bigger challenges in agriculture
(A) Artificial intelligence (B) Statistics
(C) Data mining (D) Pattern recognition
24. The ratio between the resultant output signal to a measured property of sensor is
(A) Resistivity (B) Offset error
(C) Sensitivity (D) conductivity
25. The type of learning which has no labelled inputs is called
(A) Supervised learning (B) Un-supervised learning
(C) Reinforcement learning (D) Semi-supervised learning

PART – B (5 × 10 = 50 Marks)

Answer ALL Questions

- | | Marks | BL | CO | PO |
|---|-------|----|----|----|
| 26. a. Write short notes on
(i) Types of soil
(ii) Soil survey methods | 5+5 | 1 | 1 | 1 |
| (OR) | | | | |
| b.i. State the properties of soil that can be used for paddy cultivation. | 5+5 | 1 | 1 | 1 |
| ii. Discuss about the various types of tillage and sowing techniques. | | | | |
| 27. a. Explain in detail about the cultivation techniques used in
(i) Oil used crops
(ii) Fibre crops | 5+5 | 1 | 2 | 1 |
| (OR) | | | | |
| b.i. Evaluate the cost of cultivation of major field crops in India. | 5 | 4 | 2 | 2 |
| ii. List down the various production techniques for any two vegetable crops in India and explain briefly. | 5 | 3 | 2 | 1 |