A

Question Paper Code: 59G52

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

Interdisciplinary

Mechanical Engineering

15UGM952 - AUTOMATION IN AGRICULTURE

(Common to Information Technology)

(Regulation 2015)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. A man can develops _____.   CO1- R

    (a) 75 watts   (b) 80 watt   (c) 90 watts   (d) 1 Hp

2. To cultivate 10 ha of land the required animal power (Bullock pair)   CO1- R

    (a) 5 pair   (b) 50 pair   (c) 100 pair   (d) 500 pair

3. The minimum soil manipulation is essential for crop production in   CO2- R

    (a) No tillage   (b) Minimum tillage   (c) Strip tillage   (d) Reduced tillage

4. A vertical disc plough is also termed as: CO2- R

    (a) Wheat plough   (b) Harrow plough   (c) Both (a) & (b)   (d) None of the above

5. The benefits of micro irrigation are   CO3- R

    (a) Most efficient method of irrigation

    (b) Increases crop productivity with less water usage

    (c) Saves electricity

    (d) Enhances fertilizer use efficiency

6. How can an irrigation layout be automated? CO3- R

   (a) Sections of channel (b) At individual bay outlets.

   (c) Both (a) and (b) (d) None of the above

7. In any solar-power system, the most important device used CO4- R

   (a) Solar charge controller (b) Solar battery (c) Solar converter (d) None of the above

8. The available traditional methods of irrigation CO4- R

   (a) Drip irrigation (b) Ditch irrigation (c) Sprinkler system (d) All of the above

9. Demeter is a type of robot used for CO5- R

   (a) Remove the weed (b) Cutting the crops

   (c) Cut the grass in lawns (d) Tending trees

10. Robot which can work with respect to medium and environment is CO5- R

    (a) Mobile Robot (b) Industrial Robot (c) Field Robot (d) Weed Controller

PART – B (5 x 3= 15 Marks)

11. Illustrate any three Scope of farm mechanization. CO1- U

12. What are the main functions of cultivator? CO2- R

13. Differentiate between surface and subsurface irrigation. CO3- Ana

14. Name the types of controller used in ANN. CO4- U

15. List the Controllable Maneuvers used in Wheel-type Robot Tractor. CO5- U

PART – C (5 x 16= 80Marks)

16. (a) Explain the different sources of farm power. CO1- U (16)

    Or

    (b) Explain the status of farm mechanization in India. CO1- U (16)

17. (a) What are the different methods of tractor ploughing? What do you understand by continuous ploughing method? Explain with neat sketch. CO2- U (16)

    Or

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(b) What are the different types of disc harrow? Describe the working of   CO2- U   (16)
off-set disc harrow.

18. (a) Explain the various components in automation in Agriculture.   CO3- U   (16)

Or

(b) Explain the different methods of automating irrigation layout.   CO3- U   (16)

19. (a) Explain in detail about the machine learning in agricultural   CO4- U   (16)
monitoring.

Or

(b) Explain in detail about the IOT in agriculture.   CO4- U   (16)

20. (a) Explain the various Agricultural robot vehicles that are used for   CO5- U   (16)
agriculture recently.

Or

(b) Explain about the types of Robots used in Horticulture.   CO5- U   (16)

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