Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **18AG1007** | **Duration :** | **3hrs** |
| **Sub. Name :** | **IRRIGATION WATER MANAGEMENT** | **Max. Marks :** | **100** |

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| **Q. No.** | **Questions** | **Course Outcome** | **Marks** |
| **PART – A (20 X 1 = 20 MARKS)** | | | |
| 1. | \_\_\_\_\_\_ is India’s water budget. | CO1 | 1 |
| 2. | \_\_\_\_\_\_ name of Chola King constructed grand Anaicut across Cauvery river. | CO1 | 1 |
| 3. | Average rainfall of Tamil Nadu is \_\_\_\_\_\_ mm. | CO1 | 1 |
| 4. | The movement of water from surface into the soil is called\_\_\_\_\_. | CO1 | 1 |
| 5. | What is pF? | CO1 | 1 |
| 6. | Why Cu = ET for all practical considerations? | CO1 | 1 |
| 7. | What is effective rainfall? | CO1 | 1 |
| 8. | Write the formula to calculate Gross Irrigation Requirement. | CO2 | 1 |
| 9. | What are the critical stages for irrigation for wheat crop. | CO2 | 1 |
| 10. | What is the total water requirement of rice crop. | CO3 | 1 |
| 11. | What is the input data required to calculate ETO in modified Penman method. | CO2 | 1 |
| 12. | Write the formula for water application efficiency. | CO3 | 1 |
| 13. | What is crop water use efficiency? | CO3 | 1 |
| 14. | What is fertigation? | CO2 | 1 |
| 15. | Mention the main components in drip irrigation. | CO2 | 1 |
| 16. | Name any two advantages of Border irrigation. | CO2 | 1 |
| 17. | Write any two crops suitable for furrow irrigation. | CO2 | 1 |
| 18. | Expand the term CADA. | CO3 | 1 |
| 19. | Enlist the factors affecting Evapotranspiration. | CO2 | 1 |
| 20. | Name the direct method of estimation of Evapotranspiration. | CO2 | 1 |

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| **PART – B (10 X 5 = 50 MARKS)**  **(Answer any 10 from the following)** | | | |
| 21. | State the role of water in plant life. | CO1 | 5 |
| 22. | Trace the pathway of soil water plant atmospheric continuum. | CO1 | 5 |
| 23. | What is meant by transpiration? Why it is considered as a necessary evil? | CO1 | 5 |
| 24. | What do you mean by critical stages of irrigation? Give the critical stages of irrigation for Rice, Wheat and Groundnut. | CO2 | 5 |
| 25. | Explain the irrigation terminology, Delta, Duty and Base period. | CO1 | 5 |
| 26. | Define SAR and ESP. | CO3 | 5 |
| 27. | Find out the quantity of water to be applied to a crop given in the following data:   |  |  |  |  | | --- | --- | --- | --- | | **Depth of soil layer (cm)** | **Moisture (%) on over dry basis** | | **Aparent specific gravity (g / cm3)** | | **FC** | **PWP** | | 0-15 | 26 | 17 | 1.50 | | 15-30 | 25 | 18 | 1.60 | | 30-60 | 22 | 19 | 1.70 | | 60-90 | 23 | 20 | 1.72 | | CO2 | 5 |
| 28. | Draw and mark the parts of a twin nozzle rotating sprinkler head. | CO2 | 5 |
| 29. | Enlist the surface drainage systems and explain field drains. | CO3 | 5 |
| 30. | Explain any three soil moisture constants. | CO2 | 5 |
| 31. | Enlist direct and indirect approaches of irrigation scheduling. | CO2 | 5 |
| 32. | Define water requirement. How is this demand fulfilled in agriculture? | CO2 | 5 |

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| **PART – C (2 X 15 = 30 MARKS)**  **(Answer any 2 from the following)** | | | | |
| 33. | a. | Examine the characteristic pattern of water extraction from soil by plants. | CO2 | 8 |
| b. | How does the rooting pattern decide the water extraction pattern. | CO2 | 7 |
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| 34. | a. | Define methods of irrigation. Give the methods of irrigation flow chart. | CO2 | 8 |
| b. | Explain the working of Drip irrigation unit. | CO2 | 7 |
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| 35. | a. | Explain the agronomic practices to improve WUE. | CO3 | 8 |
| b. | Explain the term water conveyance and water storage efficiency. | CO3 | 7 |