KERALA AGRICULTURAL UNIVERSITY

B.Tech (Agrl. Engg) 2022 Admission, S8 (VIII Semester)

Elid 4205 LANDSCAPE IRRIGATION DESIGN AND MANAGEMENT

Final Examination

Marks: 50

Time: 2 hours

I. Fill up the blanks **(5x 1.0 = 5.0)**

1. The rate at which a sprinkler system is designed to apply water is less than the ..... of the soil
2. Distribution uniformity of sprinkler irrigation is also known as .....
3. The velocity of flow in pipes of drip irrigation system should not be greater than .....
4. The value of C in Hazen Willian formula for PVC pipes is .....
5. ..... is the heart of the automation system, which coordinates operation of entire system.

II. True or False, if false write right statement **(5x 1.0 = 5.0)**

1. The maximum pressure difference allowable in a micro irrigation system is 30% and the maximum difference in pressure between the head and the tail end of a lateral should not exceed 15 %
2. Micro-irrigation is best suited for soils with high or variable infiltration rates
3. In shallow-rooted crops demand high uniformity, whereas deep-rooted crops can tolerate lower uniformity
4. Usually the submains are laid along the contour and laterals are placed across the contours on the sloping field.
5. Hydro cyclone filter is used for removing algae and debris from plants in micro irrigation system.

III. Write Short notes on the following (any five) **(5 x 2.0 = 10.0)**

1. List out the different types of gardens based on landscape with examples.
2. What is Distribution uniformity and its importance in sprinkler irrigation?
3. Explain briefly about the maintenance schedule for pumps.
4. What is the role of irrigation in agriculture?
5. Write the two equations for head loss calculation in micro irrigation system.
6. What is shrubs? Its classifications and importance in landscape design.
7. Define texture of landscape and its classification with example.

IV. Write down the following (any three) **(5 x 4.0 = 20.0)**

1. Explain about the installation and maintenance of sand filter in micro irrigation system.
2. Discuss about the chemical treatments that can be adopted in drip irrigation system for maintenance.
3. Explain the merits and demerits of automation in micro irrigation system
4. Explain the importance of fertigation in irrigation and challenges of fertigation.
5. How to choose a right irrigation system for a landscaped garden.
6. Classification of sprinkler systems based on its portability
7. Explain the components of automation in micro irrigation system with its functions.

V. Write down the following (any one) **(1 x 10.0 = 10.0)**

1. Explain the various steps in design of micro sprinkler system.
2. Explain the precautions to be taken during the installation of the different components of a micro-irrigation system and their maintenance.