



KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Agrl. Engg.) 2022 & Previous admissions
V Semester Final Examinations - January 2025

I den.3107

Sprinkler and Micro Irrigation Systems (1+1)

Marks: 50
Time: 2 hours

I Fill in the blanks (10x1=10)

1. Sprinkler irrigation is not suitable for soils having infiltration rate less than
2. The operating pressure required at the end of drip lateral should be.....kg/cm².
3. The application efficiency of drip irrigation system should be more than
4. The uniformity coefficient was developed by scientist.
5.is the process of application of water soluble fertilizer through drip irrigation.

State True or False

6. The flush valve should be provided on lateral.
7. The type of filter will depends upon crop type.
8. Hydro cyclone filter is also called as centrifugal filter.
9. The type of sand which is used in the sand filter is quartz.
10. Disc filter is also called as primary filter.

II Write short notes on ANY FIVE of the following (5x2=10)

1. Write about uniformity coefficient of sprinkler irrigation system.
2. Write about relationship between Pressure Head and Discharge.
3. Write about irrigation water requirement.
4. Differentiate pressure compensating and non pressure compensating.
5. Write difference between pressure relief valve and pressure regulating valve.
6. A dripper is to deliver a discharge of 5 liters/ hr. The distance between the drippers is 1 m and the distance between the laterals is 4 m. Determine the discharge rate of the dripper in mm/hr.
7. Write about how to determine size of the pumping unit.

III Answer ANY FIVE of the following (5x4=20)

1. Write a brief note on maintenance of drip irrigation system.
2. Explain types of sprinkler irrigation systems.
3. Write about Soil-Plant-Water Considerations in drip irrigation.
4. Write about screen filter with neat diagram.
5. Write about maintenance of sprinkler irrigation system.
6. Explain head control unit of drip irrigation system.
7. Write advantages and disadvantages of drip irrigation system.

IV Write an essay on ANY ONE of the following (1x10=10)

1. Explain hydraulic design of sprinkler systems.
2. (a) What are the components of sprinkler irrigation system? Explain in details with necessary figures.
(b) Find out total discharge (Water) required for 1 ha tomato crop.
-Given data, Row to row spacing is 1.21 m
-Type of lateral is Inline (Dripline) with 16 mm, emitter spacing of 0.4 m and emitter discharge of 2 lph.
-Type of soil is red soil
