



KERALA AGRICULTURAL UNIVERSITY
B.Tech. (Agrl. Engg.) 2017 Admission
V Semester Final Examination-January 2020

Iden.3107

Sprinkler and Micro Irrigation Systems (1+1)

Marks: 50
Time: 2 hours

I State True or False for the following (10x1=10)

1. Vertical distance between water surface and pump is called delivery head.
2. The high discharge emitter delivers the water at the rate of 5-9 lph.
3. Sprinkler irrigation is not suitable for the soil with the infiltration rate lesser than 4 mm/h.
4. The diameter of water droplet from sprinkler head varies from 0.5 - 4.0 mm.
5. Filter size equivalent to 150 micron is equal to 2.0 mm.
6. Lateral length in sprinkler system depends on water supply rate.
7. In screen filters, the screens are made of stainless steel.
8. For operating micro-sprinkler system, the required pressure head is 20 m.
9. The diameter of sub-main line varies from 15 to 20 cm.
10. The flow rate of bubbler varies between 8 and 80 lph.

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

1. Adaptability of sprinkler irrigation systems.
2. Droplet size for sprinkler irrigation system.
3. The irrigation system operates for 11 hours per shift. Two shifts per day during peak demand are used in each irrigation cycle of 7 days to complete irrigation in 20 ha area. Determine the capacity of irrigation system.
4. Pump selection criteria for micro irrigation system.
5. Advantages of fertigation.
6. Advantages of ventury.
7. What are the reasons for filtration?

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

1. Uniformity coefficient for sprinkler irrigation system.
2. How to determine net depth of irrigation?
3. A lateral has 20 sprinkles spaced 10 meters apart. The laterals are spaced 20 meters on the main line. Determine the amount of fertilizer to be applied at each setting when the recommended fertilizer does is 100 kg/ha.
4. Merits of micro irrigation system over other irrigation systems.
5. Effect of design criteria on drip irrigation system efficiency.
6. Chemical treatment for micro irrigation system.
7. Explain principle of gravel filter with a neat sketch.

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

1. Types of sprinkler irrigation systems.
2. Explain liquid fertilizer application methods.
