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Question Paper Code: 95A03

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

Fifth Semester

Agricultural Engineering

19UAG503 - MICRO IRRIGATION SYSTEM

(Regulation 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Persion wheel is a _____ water lifting device CO1- R
(a) Low head (b) medium head (c) high head (d) manually operated
2. An example of high head water turbine _____ CO1- R
(a) pelton (b) propeller (c) Kaplan (d) banki
3. _____ Provided at the start of sub main to control the flow of water CO2- R
(a) flush valve (b) control valve (c) non-return valve (d) air-release valve
4. _____ valve is always required for the positive displacement pump CO2- R
(a) isolation (b) butterfly (c) gate valve (d) pressure relief
5. _____ Treatment is used to control the salt accumulation inside the drip system CO3- R
(a) chlorine (b) acid (c) chlorine dioxide (d) chlorine gas
6. _____ is the heart of drip irrigation system CO3- R
(a) emitter (b) filter (c) end cap (d) filter
7. The type of filter will depends upon _____ CO4- R
(a) soil type (b) crop type (c) Spacing (d) source and quality of water

8. _____ is the process of application of water soluble through drip irrigation system CO4- R
- (a) Chemigation (b) Fertigation (c) chlorination (d) acidification
9. The largest crop area covered by drip irrigation in India is under CO5- R
- (a) plantation crops (b) orchards (c) vegetable crops (d) fiber crops
10. The J-lock dripper of Jain make is of _____ type emitter CO5 -R
- (a) self-flushing (b) pressure compensating
(c) clog resistant (d) non-pressure compensating

PART – B (5 x 2= 10Marks)

11. What is priming and how to rectify the problems in pump? CO1- U
12. write about repair and maintenance of valve? CO2- U
13. Differentiate between Traditional and Micro irrigation methods? CO3- U
14. Draw a schematic diagram of media filter? CO4- U
15. List out the Components of Sprinkler irrigation? CO5- R

PART – C (5 x 16= 80Marks)

16. (a) What is the Principle of operation centrifugal pump Draw a sketch of and label its parts? CO1- U (16)

Or

- (b) Briefly explain water lifting technology traditional methods? CO1- U (16)

17. (a) Briefly explain & draw a sketch of Pressure relief valve- Gate valve? CO2 -U (16)

Or

- (b) Briefly explain & draw a sketch of Isolated valve- Non return valve?. CO2 -U (16)

18. (a) Define Micro irrigation? Comparison between Traditional and Micro irrigation methods? CO3- U (16)

Or

- (b) Merits and demerits of micro-irrigation system? CO3 -U (16)
19. (a) Hydraulic Design and Layout of Drip Irrigation System? CO4- Ana (16)
- Or
- (b) Considered the area of 1 ha square area planted with coconut with spacing of 7.5 m x 7.5 m. Design drip irrigation system? CO4 -Ana (16)
20. (a) Explain about Operation and maintenance of Sprinkler irrigation system? CO5- U (16)
- Or
- (b) Layout-Components of sprinkler irrigation system, explain with neat sketches CO5- U (16)

