KERALA AGRICULTURAL UNIVERSITY

B.Tech (Agrl.Engg) 2012 Admission

V th Semester Final Examination- January -2015

Cat. No: Iden.3106 **Marks: 80**

Title: Irrigation Engineering (2+1) **Time: 3 hours**

Part I Answer all the questions 10x1=10

Fill in the blanks

1. Saline water can also be used in _____ irrigation
2. Water is said to be acidic when pH is _____
3. The ratio of volume of water delivered by an irrigation system to the volume of water utilized by the crop is _____
4. The gross irrigation requirement is equal to _____
5. Surface irrigation method in which water is supplied to the individual strips of land to guide the water down slope is _____

True or False

6. The deep percolation loss can be determined by using Lysimeter
7. The ratio of crop evapotranspiration and reference evapotranspiration is pan factor
8. Air locking in pipeline takes place, when there is large variation in pressure
9. Part of the total rainfall which is beneficially used by the crop is excess rainfall
10. Sandy soil is most suitable for drip irrigation

Part II Write short notes on any TEN questions **10x3=30**

1. Velocity area method of water measurement
2. Current meter
3. Cipoletti weir
4. Materials for lining field channels
5. Turnouts
6. Airvents
7. Three phases of land leveling
8. Soil moisture tension
9. Darcy's law
10. Tensiometer
11. Kennedy's theory of channel design
12. Irrigation scheduling

Part III Answer any SIX questions **6x5=30**

1. Explain Chezy's and Manning's method of estimation of mean velocity of flow in open channels
2. Explain the plan inspection method of land leveling
3. Differentiate between porosity and void ratio
4. Explain the various forms of soil water
5. Explain soil moisture constants
6. Explain Net irrigation requirement and Gross irrigation requirement
7. Explain uniformity coefficient
8. Differentiate between steady and unsteady flow

Part IV Answer any ONE question **1x10=10**

1. Explain the components of sprinkler irrigation system with a neat layout and the steps involved in the design of sprinkler irrigation system
2. Explain the various methods of estimation of Evapotranspiration with neat sketches wherever necessary