

Scanned

**KERALA AGRICULTURAL UNIVERSITY**  
**B.Sc. (Hons.) Agriculture – 2008 Admission**  
**II<sup>nd</sup> Semester Final Examination - September 2009**

**Cat. No. : Agro 1203**

**Max. marks: 80**

**Title : Irrigation and Water Management (2+1)**

**Time : 3 hours**

**I. a. Fill up the blanks**

**(10 x 1 = 10)**

1. \_\_\_\_\_ per cent of water is required for physiological functions of the plant
2. On and off method of irrigation in a given set of furrow is \_\_\_\_\_ irrigation
3. ETo is \_\_\_\_\_
4. Water requirement for groundnut crop is \_\_\_\_\_
5. Higher soil osmotic potential leads to \_\_\_\_\_ uptake of nutrients from the soil by the plants.

**b. State True or False**

6. Modified Penman method is one of the empirical methods to find out potential evapo-transpiration
7. Water movement in soil-plant-atmospheric system is directly proportional to resistance to flow
8. Higher IW/CPE ratio, lower irrigation interval
9. Herring bone is a good open drain system where main is in narrow valley
10. Spacing of the tile drain for clay loam soil with slow permeability is 12 - 21 m

**II. Write short notes / answers on ANY TEN**

**(10x3=30)**

1. Void ratio of soil
2. Rain-fed farming
3. Matric potential of soil
4. Mention three empirical methods for calculation of ETo.
5. Moisture sensitive stages of groundnut
6. Water conveyance efficiency
7. Leaching requirement
8. Three essential requirements of good drain
9. Contour trenching
10. Mention three factors determining land capability for irrigation
11. What is watershed?
12. Mention three Government of India watershed development programmes

**III. Write short essays on ANY SIX of the following**

**(6 x 5 = 30)**

1. Importance of irrigation water in crop production
2. Soil moisture characteristic curve
3. Irrigation scheduling
4. Briefly about sprinkler irrigation and its advantages and limitations
5. Factors influencing water use efficiency
6. Mention five types of surface drain and discuss them very briefly
7. Briefly discuss *ex-situ* water harvesting method
8. Approaches in watershed management

**IV. Write essays on ANY ONE**

**(1 x 10 = 10)**

1. Water management for rice and banana
2. Discuss in detail about watershed and its management