

KERALA AGRICULTURAL UNIVERSITY  
B.Sc (Hons.) Ag. Programme  
II<sup>nd</sup> Semester Re- Examination- July/August -2015

Cat. No: Agro.1203

Title: Irrigation & water Management (2+1)

Marks: 80

Time: 3 hours

**I. Fill in the blanks/answer the questions as indicated**

(10X 1= 10)

1. -----is the name given to exchange of heat between a growing crop and surrounding dry fallow whereby hot wind passing through the crop is cooled to give heat for evaporation.
2. A soil moisture content of 10 % on soil volume basis is equivalent to -----cm/m
3. State true or false: In mineral soils, unlike bulk density, particle density can be taken as a constant value. -----
4. -----is the name given to water potential due to the adsorption of water to the soil surfaces
5. Removal of excess water from soil through artificial measures is -----
6. State true or false: Soil moisture at - 8 kPa is not available to plants.-----
7. Run off occurs because of ----- ( splash erosion, sheet erosion, rill erosion, gully erosion)
8. Contour bunds are recommended for areas with slopes from -----degree to ----- degree .
9. Write the full form of SALT-----
10. Write the formula to find vertical interval, VI =-----

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

(10X 3= 30)

1. Why reference crop ET is accepted as an improvement over potential ET?
2. What do you mean by SMD (Soil Moisture Deficity)?
3. Write a short note on critical stages of wheat
4. Write a short note on scheduling irrigation
5. What is available water
6. Moisture extraction pattern
7. Wind breaks
8. Distinguish between watershed area and command area
9. Contour bunds cannot be recommended for steep slopes. Why?

10. Distinguish between soil erodibility and soil erosivity
11. The conventional way of classifying crops as erosion permitting and preventing is not a good approach. Comment.
12. Puertrroican terraces

**III. Write short essays on any SIX of the following questions** (6X5=30)

1. Write a brief essay on the management techniques to improve WUE of crops
2. Discuss the importance of soil moisture constants in irrigation management
3. Write in brief how monitoring of profile moisture changes helps in decision making for irrigation management
4. What are the advantages of subsurface drainage? Explain various subsurface drainage types
5. Write a brief essay on USLE and tolerable soil loss
6. Explain various agronomic measures of soil conservation
7. Define watershed. What are the differences between small watershed and large watershed? What are the objectives of watershed management?
8. What are common types of farm ponds

**IV. Write an essay on ANY ONE** (1X 10= 10)

1. Enumerate different approaches for scheduling irrigation and explain in detail on climatologic approach of scheduling irrigation.
2. Give a broad classification of soil conservation methods. Explain briefly on various terracing techniques.