

KERALA AGRICULTURAL UNIVERSITY

B.Sc Hons (Ag) 2012 Admission

IInd Semester Final Examination- August /September-2013

Cat. No: Agro.1203

Marks: 80

Title: Irrigation & water Management (2+1)

Time: 3 hours

I. Name the following:

5x1=5

1. Soil moisture tension at field capacity
2. Watershed with area ranging from 100 to 1000 Hect
3. No. of rivers in Kerala
4. Rate of change of hydraulic head with distance
5. Available soil water content if field capacity is 28% and permanent wilting point is 12%

II. Define:

5x1=5

1. Water management
2. Potential evapotranspiration
3. Water application efficiency
4. Moisture characteristic curve
5. Contour

III. Write short notes / answers on ANY SEVEN

7x3=21

1. Surface irrigation methods
2. Effect of sand mining on water conservation
3. Calculate the irrigation interval for wheat crop in a loamy soil if available soil water is 20 cm/m and depth of root zone is 60cm. Allowable soil water depletion is 50%. Daily water use is 5mm/day.
4. Critical stages of water requirement in rice
5. Components of soil water potential
6. Causes of waterlogging
7. Methods of water erosion
8. Name three parameters determining quality of irrigation water.
9. SRI technique

IV. Differentiate between

3x3=9

1. *In situ* and *ex situ* water harvesting
2. Infiltration and percolation of water
3. Conveyance efficiency and application efficiency of irrigation water

V. Write short essays/ give answers on ANY SIX of the following

6x5=30

1. Soil-plant-water relationships
2. What is the aim of a watershed development programme? What are the limitations in implementation?
3. Mechanical methods of soil conservation
4. Fertigation techniques
5. List out the methods of irrigation. What is the specialty of each system? (one sentence each)
6. What are the agrotechniques to be resorted to for getting higher yields under dryland farming?
7. Delineation procedure of watershed
8. Development of water resources in India and Kerala

VI. Write essay on any one

1x10=10

1. What are the different methods of micro irrigation? List out the important components. What are the advantages and limitations of each method?
2. Explain different methods of soil conservation