

KERALA AGRICULTURAL UNIVERSITY

B.Sc (Hons.) Forestry. 2014 Admission
IInd Semester Final Examination- August-2015

Cat. No: Safo.1204

Title: Principles of Hydrology, soil and Water Conservation (2+1)

Marks: 50
Time: 2 hours

I. Fill up the blanks

1. ----- is the advanced stage of splash erosion.
2. ----- aquifer is known as free aquifer.
3. Rain – gauge readings are taken every day at ----- hr IST.
4. Self- recording rain gauge records the ----- of rainfall.
5. Vegetation tends to ----- the runoff from the catchment.

Define the following

6. Drainage coefficient
7. Water harvesting
8. Aquifer
9. Contour bund.
10. Hydrograph

(10x1=10)

II Answer any five of the following

1. Which types of land require drainage ?.
2. What are the advantages of drip irrigation?.
3. Write short note on stream bank erosion.
4. Explain various functions served by graded bunds.
5. What is universal soil loss equation Explain each term
6. Explain the differences between confined and unconfined aquifer.

7. Explain the 'tangible and non-tangible' benefits due to flood control

(5x2=10)

III Write short essays on any five of the following

1. Explain the direct and indirect effects of soil erosion

2. Briefly explain the plane method of land leveling

3. What are the factors affecting runoff? Briefly explain role of each factor.

4. Find out the number of contour bunds to be constructed in a field of 80 x 125 m size, where slope of the land is 0.6%, to control soil erosion. Assume the value of 'a' is 1 and 'b' is 2.

5. Briefly explain the effect of topography on soil erosion.

6. Briefly explain the forms of precipitation.

7. Define unit hydrograph. How unit hydrograph is derived from flood hydrograph?

(5x4=20)

IV Write essay on any one of the following

1. Draw a neat sketch of drip system of irrigation. Describe about various components of the system

2. Explain various measures to control soil erosion by water.

(1x10=10)

----- x ----- x -----