



KERALA AGRICULTURAL UNIVERSITY
B.Sc. (Hons.) Forestry 2016 Admission
V Semester Final Examination-January 2019

Narm.3107

Forest Hydrology and Watershed Management (2+1)

Marks: 50

Time: 2 hours

I Fill in the blanks: (10x1=10)

- 1 _____ is the process of cooling and precipitating the atmosphere moisture
a. Runoff b. Interception c. Transpiration d. Condensation
- 2 _____ is the part of precipitation
a. Frost b. Evaporation c. Condensation d. None of these
- 3 The portion of rainfall which reach the ground along the tree trunk is known as _____
a. Interception b. Runoff c. Through fall d. Stemflow
- 4 The excess water which flows on the earth surface towards slopes is called _____
a. Infiltration b. Percolation c. Runoff d. Interception
- 5 The quantity of discharge is _____ in forest watershed than in agricultural watershed.
a. lower b. Higher c. similar d. none of these

State True or False

- 6 Percolation rate can be measured by A class Pan.
- 7 The depth at which soil pore spaces become completely saturated with water is called water table
- 8 Stemflow can be measured by Infiltrometer.
- 9 The portion of water that does not reach to ground but stored in leaves called stemflow.
- 10 Time of concentration is the time taken to reach water from most remote point to outlet.

II Write Short notes on ANY FIVE of the following (5x2=10)

- 1 Describe watershed with a figure.
- 2 Determine the annual volume of runoff from watershed of 10 ha, if average annual rainfall is 160 cm and runoff is 50% of rainfall.
- 3 **Symons type** rain guage.
- 4 Usefulness of trees for water conservation.
- 5 Various kind of soil water.
- 6 Soil erosion in forest area.
- 7 Impact of water yield on forest cutting.

III Answer ANY FIVE of the following (5x4=20)

- 1 Water and Energy Cycle.
- 2 Factors affecting infiltration.
- 3 Different classes of Land capability classifications.

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- 4 Water harvesting.
- 5 Hydrograph and its explanation with figure.
- 6 GIS and its uses.
- 7 Steps of watershed delineation.

IV Answer ANY ONE of the following

(1x10=10)

- 1 Objective and components of Watershed Management.
- 2 Transpiration and factors affecting it.
