



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Sc ( Hons.) Agriculture 2016 Admission**  
**II Semester Final Examination-August 2017**

Agro.1203

**Irrigation and Water Management (1+1)**

**Marks: 50**  
**Time: 2 hours**

**I Fill in the blanks /Choose the correct answer: (10 x 1=10)**

- 1 The soil water potential at field capacity is ----- kPa.
- 2 If bulk density and particle density of a soil is 1.65 g/cm<sup>3</sup> and 2.75 g/cm<sup>3</sup> what will be its porosity in percentage -----
- 3 The annual average soil loss in India is estimated as ----- Mg/ha
- 4 The downward movement of water through soil is called -----
- 5 Pick the most suitable method of irrigation for coconut (check basin, ring basin, border strip, furrow).
- 6 The ratio between the water stored in root zone of a crop to the water delivered at the field is called ----- (water distribution efficiency, water conveyance efficiency, water application efficiency, field irrigation efficiency)
- 7 The flow of water from ground water to a stream is called ----- (base flow, subsurface flow, overland flow, capillary rise).
- 8 An erosive rain event is a storm that results in more than ----- mm during 30 minute period (25, 12.5, 2.5, 30).
- 9 The size and shape of a watershed are determined by ----- (topography, elevation, drainage line)
- 10 State true or false : Puertorican terrace is a type of bench terrace -----

**II Write short notes on any FIVE: (5 x 2=10)**

- 1 Soil – plant- atmosphere continuum.
- 2 Reference crop evapotranspiration.
- 3 Hydraulic conductivity.
- 4 Surge irrigation.
- 5 About 95% of soil water potential is contributed by matric potential. Explain.
- 6 State the differences between Crop Coefficient (Kc) and Crop factor (CF).
- 7 Differentiate between water requirement and irrigation requirement.

**III Answer any FIVE: (5 x 4=20)**

- 1 Define drainage co-efficient. Explain various surface drainage systems.
- 2 Describe the characteristics of poor quality water. Suggest the measures to be taken for using poor quality water for irrigation purpose.
- 3 What is depth of irrigation? How will you determine the depth of irrigation for irrigation scheduling?
- 4 Describe the water balance accounting method of scheduling irrigation.
- 5 Write a brief essay on different types of soil erosion.
- 6 What are checkdams? How they are used.
- 7 What are the different types of bench terraces? Which among these will you recommended for Western Ghats?

**IV Write essay on any ONE: (1 x 10=10)**

- 1 What is micro-irrigation? What are the major types? Discuss in detail on drip irrigation.
- 2 What do you mean by water harvesting? What are the different *in situ* and *ex situ* water harvesting methods.

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