

# \*KERALA AGRICULTURAL UNIVERSITY

B.Tech (Agrl.Engg.) 2014 Admission  
VI Semester Final Examination-July-2017

Cat. No: Lwre.3206

Marks: 50

Title: Soil and Water Conservation Structures (2+1)

Time: 2 hours

---

## I Fill up the blanks (10x1=10)

- 1 The structures which are constructed to check the velocity of flowing water in the gully are known as -----
- 2 The drop height of chute spillway should be ----- to----- m
- 3 In straight drop structure the function of cut off wall is to -----
- 4 -----structure can also be used for water storage along with gully control.
- 5 The design of permanent gully control structure is done based on the return period of -----
- 6 The formation of steady hydraulic jump occurs at the Frude number (F) ----  
----- to-----
- 7 Farm pond is a structure used for -----
- 8 The capacity of a farm pond is computed by using -----formula.
- 9 In earthen dam the function of core wall is to-----
- 10 The 'Kresnik formula' computes ----- for the design of check dam

## II Write short notes on any FIVE (5x2=10)

- 1 Stabilization of gully
- 2 Environment impact assessment
- 3 Brush wood check dam.
- 4 Gabion structures
- 5 Frude Number
- 6 Percolation ponds
- 7 Design criteria of a SAF stilling basin.

## III Answer any FIVE (5x4=20)

- 1 Describe the different types of semi permanent check dam.
- 2 List out permanent gully control structures and write their requirement.
- 3 Describe the design procedure for straight drop spill way.
- 4 Describe the design steps of drop inlet spillway.
- 5 Describe the procedure for farm pond construction.
- 6 What is hydraulic jump? Explain its application.
- 7 Triangular load diagram for various flow conditions.

## IV Write essay on any ONE (1x10=10)

- 1 Explain design steps of chute spillway.
- 2 Define earthen dam. What are the different types of small earth embankments? Describe design principles of earth embankments.

\*\*\*\*\*