



KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Agrl. Engg.) 2020 Admission
V Semester Final Examination - January 2023

Lwre.3107

Water Harvesting and Soil Conservation Structures (2+1)

Marks: 50
Time: 2 hours

I State True or False

(10x1=10)

1. Drop spillway is constructed at medium slope.
2. Apron is main upstream component of spillway.
3. Cut-off trench is provide to structure stability of the dam.
4. Homogeneous type of dam constructed using more than one fill materials.
5. Hydraulic fill dam is from several compacted layers of earth materials.
6. Casing or outer shell in the earthen dam is provided stability and creating protection for the core.
7. Free board height is provided less than 1 m in earthen dam.
8. Dimensions of structure determine in hydrologic design.
9. Froude Number 1 to 3 consider as Weak Jump.
10. Off stream storage ponds constructed in the side of perennial stream.

II Write short notes on ANY FIVE of the following

(5x2=10)

1. Roof top rain water harvesting
2. Drop inlet spillway
3. Percolation pond
4. Function of Cutoff Trenches
5. Emergency spillway
6. Chute spillway
7. Negarim Micro-catchments

III Answer ANY FIVE of the following

(5x4=20)

1. Draw a net sketch of straight drop spillway and show its components.
2. What are the principles for water harvesting?
3. Define farm pond. Describe different type of farm pond.
4. Draw net sketch of earthen embankment with all components.
5. Describe the criteria for site selection of farm pond.
6. Describe structures for In-situ water harvesting.
7. What are basic factors considered in planning water harvesting interventions?

IV Write an essay on ANY ONE of the following

(1x10=10)

1. Discuss hydrologic, hydraulic and structure to design of drop spillway.
2. Describe step wise procedure for designing of SAF stilling basin in chute spillway.
