KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Agri. Engg) 2015 Admission
VI Semester Final Examination-July 2018

Lwre.3206   *Soil and Water Conservation Structures (2+1)*

Marks: 50

Time: 2 hours

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

1. The gabion are constructed by using......................
2. The drop height of straight spillway should be ....m
3. In pond the embankment height above spillway level should be.............. cm
4. The kind of spillway used in farm pond as mechanical spillway, is................
5. .... m drop height of chute spillway
6. .... Structure is used for water storage along with gully control
7. Manning's formula for computing the V..................
8. Rational formula for computing discharge......................
9. Downstream section of straight drop spillway is called as........................
10. The design of permanent gully control structures is done for a return period of............

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

1. Laplace equation for seepage analysis.
2. With neat sketch, explain homogeneous dam with drainage filter.
3. What is seepage failure in earthen dam ?
4. List out different functional uses of drop spillway.
5. Distinguish between silt detention and percolation dam.
6. Differentiate between hydrologic and hydraulic design.
7. Mention the uses of drop inlet spillway.

III   **Answer any FIVE of the following.**   **(5x4=20)**

1. What is Water harvesting? Explain short term runoff harvesting techniques?
2. Explain hydrologic, hydraulic and structure design of permanent gully control structures
3. What are the criteria for design of earthen dam? Enumerate
4. With neat sketch explain the gabion structure?
5. Draw a neat sketch and explain the different components of drop spillway?
6. Write the trapezoidal formula and Simpson's formula for calculate the capacity of farm pond?
7. Explain environmental impact assessment of soil conservation Structures.

IV   **Write an essay on any ONE of the following**   **(1x10=10)**

1. Farm pond
2. Hydraulic jump

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