

# NPTEL Online Certification

## COMPUTATIONAL HYDRAULICS

Week 12 : Assignment  
July 24-October 13, 2017

**NOTE:** Attempt **ALL** questions. Make suitable assumptions, wherever necessary.

1. The unsteady flow in pipes is solved with \_\_\_\_\_ Finite Volume discretization.
    - **explicit**
  2. In explicit discretization of 1D-channel( $\Delta t_c$ )-2D-surface water( $\Delta t_s$ )-2D-groundwater( $\Delta t_g$ ) flow problem, arrange the time-steps required in increasing order (from physical point of view and identical spatial resolution).
    - $t_c < t_s < t_g$
  3. In interaction of different types of flow, information can be transferred in terms of
    - **source/sink term**
    - **depth**
  4. In case of gaining stream, water level in the aquifer is at a \_\_\_\_\_ than that of a river.
    - **higher level**
  5. In case of losing stream, water level in the aquifer is at a \_\_\_\_\_ than that of a river.
    - **lower level**
  6. In unsteady pipe flow problem, stability of the numerical scheme depends on
    - **Courant number**
    - **CFL Condition**
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