

M.M=15

time = 1 hour

II CLASS test

CE-306

Irrigation Engg.

III civil Engg.

Date 17-1-18

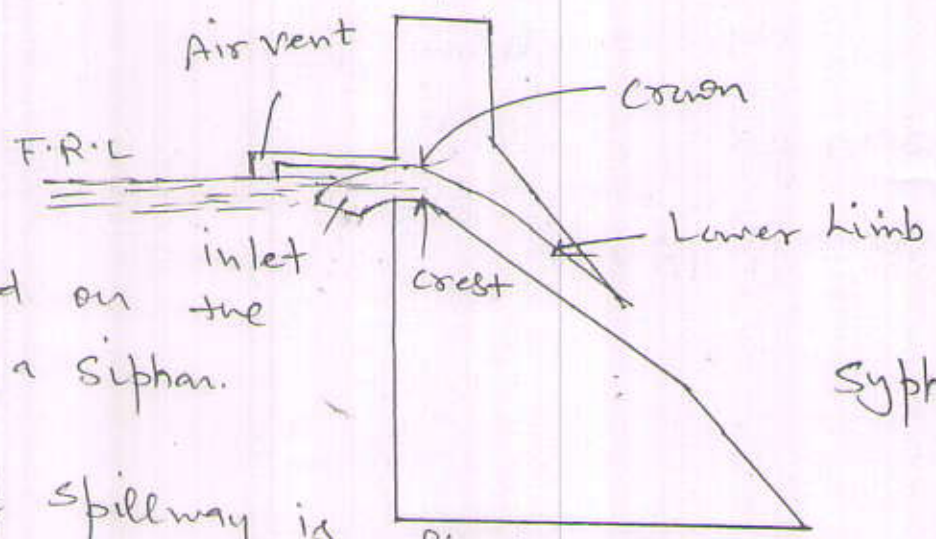
Solve All Questions, Carry Equal Marks.

1. Explain the forces acting on the Gravity Dam. (5)
2. Explain Syphon Spillway with Sketch. (5)
3. Explain the various river training works (5)

Sol. 1  $\Rightarrow$  A Gravity dam is that dam in which stability of dam against external forces is achieved by the wt. of the dam itself. Gravity dam may be constructed with concrete or masonry. Following forces act on the dam.

1. water pressure
  2. Self wt. of dam
  3. uplift
  4. silt and earth pressure
  5. ice pressure
  6. Earthquake pressure
  7. wind pressure
  8. wave pressure.
- out of these forces, Imp forces are water pressure, uplift and Dead wt. of Dam.

Sol 2  $\Rightarrow$



It is designed on the principle of a siphon.

Syphon Spillway

The crest of spillway is fixed at the F.R.L. when W.L in the reservoir rise above F.R.L the sheet of water starts spilling over the crest. Generally lower end of limb kept below F.R.L. when water level falls to F.R.L air enters the lower limb through the air vent and Syphon Action is stopped.

अज्ञान

River training works for the following objects.

1. Protection of bed and banks of the river from erosion
2. Maintenance of river channel for navigation
3. Protection of Land from flooding.
4. Protection of Imp. Hydraulic structures.

Common type of River trg. works are

1. embankments
2. Guide Banks.
3. Spurs
4. Bed pitching and bank revetment

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