



Assignment 4

- 1- Write briefly about the types of irrigation structures.
- 2- What is the main function of each of the following:
 - a) Control structures
 - b) Dams
 - c) Regulators
 - d) Locks
 - e) Weirs
 - f) Syphon
 - g) Aqueduct
 - h) Escapes
 - i) Crossing structures
 - j) Bridges
 - k) Culvert
- 3- State the suitable structure used for the following intersections:
 - a) Main canal – Main road
 - b) Main road – branch canal
 - c) Branch canal – Main drain
 - d) Main canal – Branch drain
 - e) Canal and Drain at their ends



- 4- It is required to design a reinforced concrete aqueduct in a crossing of branch canal and main drain of the following data:

Data	Main Drain	Branch Canal
Bed Level	(0.50)	(6.00)
Bed Width	16.00	2.5
Water Level	(5.00)	2.50
Berm Level	(5.75)	(7.50)
Road Level	(8.50)	(8.00)
Road Width	10.00	(8.50)
Side slope from bed to berm	3:2	3:2
Side slope from berm to road	2:1	2:1
Discharge (m^3/sec)	70	3

If the head loss should not exceed 15cm, it is required:

- Full hydraulic calculations.
- Design the different parts of the structure.