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R-15

Code: 5G681

IV B.Tech. II Semester Supplementary Examinations February 2021

Design and Drawing of Irrigation Structures

(Civil Engineering)

Max. Marks: 70

Time: 3 Hours

Answer any one question from the following (1 x 70 = 70 Marks)

1. Design and draw a sluice taking off from a tank irrigating 600 hectares at 3000 duty. The tank bund through which the sluice is taking off has a top width of 2 m with 2:1 side slopes. The top level of bank is +40.20 and the ground level at site is +34.50. Good hard soil for foundation is available at +33.50. The sill of the sluice at off-take is +34.00. The maximum water level in tank is +38.00. The full tank level is +37.00. Average low water level of the tank is +35.00. The details of the channel below the sluice are as under. Bed level +34.00, FSL +34.50, Bed width 1.25 m and side slopes are 1½ to 1 with top of bank at +35.50.

OR

2. Design and draw Trapezoidal notch fall with the following hydraulic particulars.

Description	Upstream	Downstream
Full supply discharge	6 Cumec	6 Cumec
Bed width	6 m	6 m
Bed level	+10	+8
Full Supply depth	2.00 m	2.00 m
Full Supply level	+12.50	+10.00
Tank bund level	+13.5	+11.00
Half supply depth	1.25 m	

Top width of bank is 2.00 m. Ground level at the site of work is +10.50. Good soil is available for foundations at +8.50
