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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech IV Year I Semester Supplementary Examinations June-2024
DESIGN & DRAWING OF IRRIGATION STRUCTURES
(Civil Engineering)

Time: 3 hours

Max. Marks: 60

(1 x 60 = 60 Marks)

- 1 Design the sloping glacis weir across the stream for the following data:

L1 60M

Hydraulic particulars	Up-stream of drop	Downstream of drop
Full supply discharge	9.0 m ³ /sec	9.0 m ³ /sec
Bed width	6.5 m	6.5 m
Bed level	+ 19.00	+ 17.00
Full supply depth	1.60 m	1.60 m
F.S.L	+ 20.60	+ 18.60
Top of bank level(T.B.L)	+ 21.60	+ 19.60

Hard strata are available below + 17.00 level for foundation.

Draw the plan and sectional elevation to the suitable scale

OR

- 2 Design a surplus weir for a minor tank forming a group of tanks with the following data:

L3 60M

Combined catchment area	= 35 km ²
Intercepted catchment area	= 10 km ²
Top width of the bund	= 2 m Side slopes of the bund = 2:1 on both sides
Top level of bund	= + 12.25
Maximum Water Level (MWL)	= + 10.75
Full Tank Level (FTL)	= + 10.00
General ground level at the site	= + 8.50
Ground level slopes off to a level	= + 8.00 in about 6 m distance
The foundations are of hand gravel	= + 7.00
Saturation gradient	= 4:1 with 1 m clean cover

Provision is to be made to store water up to MWL in-times of necessity

Draw the following:

- (a) Half plan at top and half plan at foundation level
(b) Half longitudinal section and half longitudinal elevation

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