Q.P. Code: 19CE0144`

R19

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech IV Year I Semester Regular Examinations November/December-2022

DESIGN & DRAWING OF IRRIGATION STRUCTURES

(Civil Engineering)

Time: 3 hours Max. Marks: 60

(Answer all Five Units **1 x 12 = 60** Marks)

1 Design a Canal drop of 2 meters with the following data **L4 60M**

Hydraulic particulars of the canal above drop :

Full supply discharge	: 4.0 m^3/s
Bed width	: 6.00 m
Bed level	: +10.00
Full supply depth	: 1.50 m
F.S.L	: +11.50
Top of bank 2m wide at level	: +12.50
Half supply depth	: 1.00 m

Hydraulic particulars of the canal below drop :

Full supply discharge	: 4.0 m^3/s
Bed width	: 6.00 m
Bed level	: +8.00
Full supply depth	: 1.5 m
F.S.L	: +9.50
Top of bank 2m wide at level	: +10.50

Good soil is available for foundation at : +8.50

Draw to a suitable scale:

i) Plan

ii) Half sectional elevation

iii) longitudinal section (c/s through the drop wall

OR

2 Design a Tank sluice with tower head for the data given below **L4 60M**

Ayacut to be irrigated	: 200 ha
Duty	: 1000 ha/cumec
Top width of the tank bund	: 2 m with 2:1 side slopes
The top level of bank	: +40.00
The ground level at the site	: +34.50
Hard soil for foundation	: +33.50
The sill of the sluice at off take	: +34.00
The maximum water level of the tank	: +38.00
The Full tank level	: +37.00
Average low water level of the tank	: +35.00
The channel bed level	: +34.00
Full supply level	: +34.50
Bed width	: 1.25 m
Side slopes of channel	: 1.5 to 1 with top of bank at +35.50

Draw the Following:

i) Half plan at top & half plan at foundation level

ii) Longitudinal section through the barrel

*** END ***