PVP 14

Code: CE7T4E

IV B.Tech - I Semester – Regular Examinations – October - 2017

DESIGN AND DRAWING OF HYDRAULIC STRUCTURES
(CIVIL ENGINEERING)

Duration: 3 hours Max. Marks: 70

Answer any one Full question. 1 x 70 = 70 M

Note: Assume any other data if required. Khosla's curves and Blench curves are followed.

1. Design and draw a surplus weir for the following data:
   Combined catchment area=51km^2; Intercepted catchment area=46km^2; Top bund level(TBL)=100.00; Maximum water level(MWL)=98.50m; Full Tank Level(FTL)=97.5m; Average ground level at proposed site=96.5m; Top width of tank bund=2m; Side slopes of bund on either side=2:1; Level of hard strata for foundation=95.00m; The ground level below the weir (D/S of weir) slopes to a level of 95.50m in a distance of about 6m.
   Ryve's coefficient C=8; Modified Ryve's coefficient C=2.5
   Provisions may be made to make Kutcha regulating arrangements to store water up to MWL in terms of necessity.

OR

2. Design and draw a canal regulator for the following data:

Particulars	U/S	D/S
Full Supply Discharge	18.0 m^3/s	15.0 m^3/s
Bed width	12 m	12 m
Full Supply Level	+12.0 m	+12.0 m
Top Bank Level	+13.0 m	+13.0 m
Bed Level	+10.0 m	+10.0 m
Top width of bank	2.0 m	2.0 m
Side Slopes	2:1	2:1

Bligh's coefficient C=10

General ground level at the site +12.0 m

Good soil for foundation is available at +9.0 m

Splayed wing walls are to be provided

Design the vent ways, Gates, Apron & protection works.