

Code No: **R41012****R10****Set No. 1**

**IV B.Tech I Semester Supplementary Examinations, Oct/Nov - 2018**  
**DESIGN & DRAWING OF IRRIGATION STRUCTURES**  
**(Civil Engineering)**

**Time: 3 hours****Max. Marks: 75****Answer any ONE of the following Two Questions****Assume any of the data if required****Khosla curves are allowed****\*\*\*\*\***

- 1 Design a surplus weir with the following data:

The combined catchment area is 24.79 sqkm and the area of catchment intercepted is 21.45 sqkm. Water in the tank is decided to store upto +12 m and maximum water level is maintained at +12.75 m. The tank bund has a top width of 2m at level +14.50 m with 2:1 side slopes on either side in +11.0 m. Saturation gradient is 1:4. Draw the longitudinal sectional elevation.

(Or)

- 2 Design Notch type of fall with the following data:

<u>Data</u>	<u>U/S</u>	<u>D/S</u>
Discharge	12m <sup>3</sup> /sec	12m <sup>3</sup> /sec
Bed width	10.0m	10.0m
Bed level	+15.0m	+13.0m
Full supply depth	1.5m	1.5m
Free board	1.0m	1.0m

Ground level at site is +15.5m. Good soil for foundation is available at +12.50m. Half supply depth may be taken as 1.0m. Draw longitudinal section.