IV B.Tech I Semester Supplementary Examinations, November - 2016
DESIGN AND DRAWING OF IRRIGATION STRUCTURES
(Civil Engineering)

Time: 3 hours   **Max. Marks: 75**

Note: Answer any ONE of the following Two Questions
Assume any of the data if required
Khosla curves are allowed
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1   Design a canal drop of 2.5m of trapezoidal notch type with the following data:

Canal	Upstream side	Downstream side
Full supply discharge	6 m^3/s	6 m^3/s
Bed level	+212.0m	+210.0m
Bed width	8.0m	8.0m
Full supply depth	2.0m	2.0m
Full supply level	+214	+212
Top of the bank	2.0m at +215	2.0m at +213m
Half supply depth	1.25m	-

Ground level at the site of the work is +213m.

Good soil is available for foundation is +211m

Assume any other suitable data. Draw the L.S of the canal drop.

2   Design under tunnel to suit the following hydraulic particulars:

Canal:

Discharge 20m^3/s; Bed width 15m; Bed level +265.00; Full supply level +267.00m; Full supply depth 2m; Ultimate bed level +264.75m; Ultimate full supply level +267.50m; Velocity of flow in canal 0.50m/s; Average bed level of drain +263.00m; Left bank top width 5m; Right bank top width 2m; Top of the bank level +268.50m.

Drain:

Catchment area 4 Sq. Kilometers; Estimated maximum flood discharge 35 m^3/s; Maximum flood level of the natural drain at the site of work +264.00m; Soil is hard gravel below + 262.00m.