Heigher Technological Institute **6th of October branch**
Dpt. of Civil Engineering **principles of Irrigation & Drainage**
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Assignment # 1

Irrigation Requirements

1-an area of clayey soil has a specific weight of 1.2t/m^3, a field capacity of 28% and welting point of 15%. This area is cultivated by cotton that requires a quantity of water of 12.5m^3/day for each feddan in July. When it's effective root depth is 40 cm it is required:

a) The field irrigation requirement if the field losses are 50%.

b) Calculate the maximum period between irrigation processes.

c) If the on-interval is 6days, determine the field water duties.

2- Resolve the last problem in case of the field capacity is 24%. Explain the difference bet the two cases (F.C.=0.28 & F.C. =0.24)

3-an area is cultivated by a crop that requires a quantity of water of 14 m^3/fed/day. There is a rainfall with rate of 1.5mm/day and the field losses are 50%. Determine the field irrigation requirements.

4-resolve the last problem for the following two cases:

a) The rainfall is 1mm/day.

b) There is no rainfall.

What is your comment on these results?