Heigher Technological Institute **6th of October branch**
Dpt. of Civil Engineering **principles of Irrigation & Drainage**
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Assignment # 2

Irrigation Rotation

1-A branch canal is 12.5 km long serves an area of 23000 fed, and feeds six distributary canals as shown in table. The canal is used for direct irrigation after the 11th km to serve rest of the area.

Distributary Ch.	Location km	Area served
C1	1 left	4000
C2	3 right	3000
C3	5 left	5000
C4	7 right	3500
C5	9 left	4500
C6	11 right	2000

Draw a diagram for the branch canal with its distributaries indicating the locations of suggested constructions and showing the area served for each turn in cases of
a) Two turn irrigation rotation.
b) Three turn irrigation rotation.

2- A distributary canal serves an area of 2 km long by 1.2 km width, this area is cultivated as :35% cotton , 60% sharaki (prepared for cultivating maize), and the rest 5% is used for public services.

a) Detect the suitable irrigation rotation for this main canal.
b) Sketch the diagram for performing the irrigation rotation.
c) Determine the maximum and minimum discharges passing through the head regulator of this main canal.

3-A distributary canal serves an area of 5000 feddans. This area is cultivated as: 40% rice, 25% cotton, 30% sharaki (prepared for cultivating maize), and the rest 5% is used for the public services.

a) Detect the suitable irrigation rotation for this distributary canal.
b) Sketch the diagram for performing the irrigation rotation.
c) Determine the maximum and minimum discharges passing through the head regulator of this Distributary canal.

4-A branch canal serves a total area of 90 000 feddans by three distributary canals: C1 (27 500 fed.), C2 (33 500 fed.), and C3 (29 000 fed.). this area is cultivated as : 40% cotton, 55% sharaki (prepared for cultivating maize) and the rest 5% is used for public services.

a) Sketch a diagram for performing the irrigation rotation.
b) Calculate maximum and minimum discharges passing through the head regulator of this branch canal.
c) If the three distributary canals have equal areas served, calculate maximum and minimum discharges passing through the head regulator of this branch canal