Q.1) For the flow net shown below, if the coefficient of permeability of the soil below the dam is $5.3 \times 10^{-5} \text{ cm/sec}$, find the following:
   a) The rate of seepage (m$^3$/sec /m).
   b) The uplift force underneath the dam.

Q.2) For the flow net shown in the figure below:
   a) Compute the rate of seepage
   b) Compute the total head at point C
   c) Determine the factor of safety against boiling at the surface AB
   (K=4x $10^{-7} \text{ m/s}$, $\gamma_{sat}$=20KN/m$^3$)
Q.3) The section through a concrete dam is shown in the figure below. Determine the of seepage under the dam and plot the distribution of uplift pressure on the base of the dam. (The coefficient of permeability of the foundation soil $2.5 \times 10^{-5}$ m/sec).

Q.4) Solve problem 7.2 form the text book.

Q.5) Solve problem 7.3 form the text book.

Q.6) Solve problem 7.4 form the text book.