Expt 3 Pin Fin:

1. On a purely physical basis, explain if the efficiency is higher for a fin working under forced convection or natural convection mode.
2. Explain how will you set up and carry out an experiment to determine the effectiveness of a fin.
3. If you are given unlimited resources to add temperature sensors (thermocouples, for example), what measurements will you do to ensure that the conduction within the fin is essentially one-dimensional?

Expt. 9 Critical heat flux:

1. If the experiment is performed with pressurized water (say to 2 atmospheres), will the CHF value change or remain the same? Explain your answer.
2. In case of saturated pool boiling, even though the temperature of the wire is higher than the saturated temperature of the liquid, for smaller temperature differences, boiling does not occur. What may be the reason for this?
3. In the pool boiling curve, will the slope of the curve in the film boiling regime be higher or lower than that for the nucleate boiling regime? Explain your answer.