Expt 2: Natural convection:

1. If a longer cylinder is used in the experiment, is it possible that the temperature of the cylinder may reduce beyond a certain height? If yes, what can be the cause?
2. If this experiment is to be performed with constant wall temperature boundary condition for the cylinder wall, how will you modify the setup? In this situation, will there be any difference in the heat transfer coefficient distribution (qualitative basis) from the bottom to the top of the cylinder?
3. Is it safe to ignore the contribution of radiation to the total heat loss from the cylinder? Can you explain this with some typical calculation based on the observed temperatures in the experiment?

Expt 12 Heat Pipe:

1. Which part of the heat pipe does the vapour of the distilled water travel?
2. Do you think the performance of the heat pipe will depend on how much distilled water is filled in it? Explain.
3. After condensing, what causes the liquid distilled to return to the “hot end” of the heat pipe?