Expt. 7 Forced convection

1. Someone claimed that the length of the tube need not to very long in comparison with its diameter, if the objective is to verify the Dittus-Boelter correlation. Do you agree or disagree? Explain.
2. One student said that the manner in which the exit air temperature in the duct is measured is highly unacceptable. What is your opinion? If you agree with this student, can you suggest a remedy?
3. The same student said the manner in which the inlet air temperature in the duct is measured is acceptable! Comment with explanation.

Expt 8 Unsteady heat transfer

1. Do you think the convective heat transfer coefficient remains the same during the heating/cooling of the test piece? Explain.
2. If you were to try to ascertain the assumption of lumped capacitance model with this experiment, what additional measurements will you note?
3. When the specimen is cooled in air, do you think a significant error is being introduced in the calculation of the convective heat transfer coefficient? If yes, explain.