**20-02-2024**

**EXP 7:**

1. What does thermally fully developed flow mean? (1 m)

2. Considering a constant heat flux condition at the wall, write the energy balance equation for internal flow. Derive an expression for bulk mean temperature. (2 m)

3. What is the Nusselt Number associated with laminar flow considering constant heat flux at the walls? Is it higher or lower compared to the constant temperature case? (2 m)

**EXP 8:**

1. Define the time constant, its importance of it. (1 m)

2. plot temperature vs time, for cooling for a specimen by forced convection and by natural convection. Explain. (2 m)

3.If radiation was also included in cooling, show the temperature Vs. time curve for only convection case, and convection with radiation case. Explain (2 m)