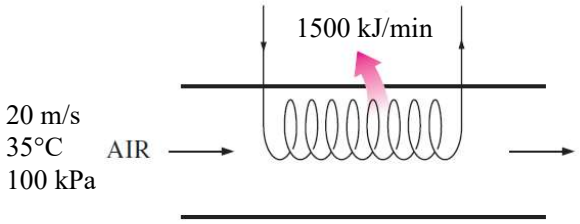
QUIZ 4A – APPLIED THERMODYNAMICS

NAME: ……..
ID. NO.: …….....

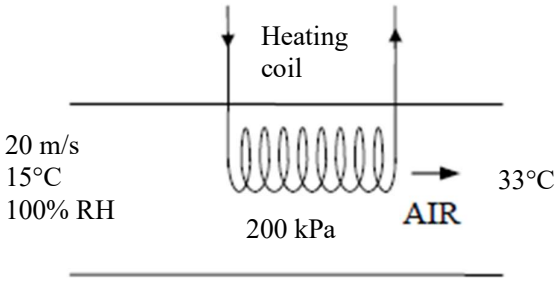
A ducting size of cooling section is designed as 50-cm-diameter. Air enters the cooling section at 100 kPa, 35°C, and 30 percent relative humidity. The velocity of the air is 20 m/s. In the cooling process, heat is removed from the air at a rate of 1500 kJ/min. Determine (*a*) the exit temperature, (*b*) the exit relative humidity of the air, and (*c*) the exit velocity.



QUIZ 4B – APPLIED THERMODYNAMICS

NAME: ……..
ID. NO.: …….....

Saturated humid air at 1 atm and 10 °C is heated to 25°C as it flows through a 5 cm diameter pipe with a velocity of 18 m/s. Disregarding pressure losses, calculate the relative humidity at the pipe outlet and the rate of heat transfer.



QUIZ 4C – APPLIED THERMODYNAMICS

NAME: ……..
ID. NO.: …….....

Air enters a 45-cm-diameter cooling section at 125 kPa, 30°C, and 40 percent relative humidity at 18 m/s. Heat is removed from the air at a rate of 1300 kJ/min. Determine (*a*) the exit temperature, (*b*) the exit relative humidity of the air, and (*c*) the exit velocity.