

Department of Chemical Engineering
King Saud University
ChE 304 Thermodynamics – Quiz #1

Name:

ID:

SN:

1. Give one example on each of the following:

Closed system:

Open system:

Intensive property:

Extensive property:

Work:

2. Complete the following table for H₂O:

T, °C	P, kPa	h_f, kJ/kg	h_{fg}, kJ/kg	h, kJ/kg	x	phase
140				1800	0.56	
	200			2046		
500	1000					

$$h = h_f + x h_{fg}$$

3. Determine the enthalpy change Δh of 10 kg nitrogen, as it is heated from 600 K to 1000 K, knowing that $C_p(800 \text{ K}) = 1.121 \text{ kJ/kg.K}$. Calculate the amount of heat required. Assume the process was done without any change in volume.