1. Write **TRUE** or **FALSE** for the following statements:

# Wet Bulb Temperature is normally lower than dry bulb temperature , but higher than dew point temperature.

* At Saturation case; the dry bulb, wet Bulb and dew point temperatures are equal.
* Under no circumstance; the dry bulb and wet Bulb temperatures are equal.

1. Find the specific volume of an air-water vapor mixture in (cubic meter per kg of dry air) when the following conditions prevail: Air temperature=300C, w=0.015 kgv/kgd.a and the barometric pressure=101.325 kpa . Use both Formulas and psychrometric chart in solving.
2. Find the specific humidity (gv/kgd.a) when the air temperature is 50 0C, and at this state the specific enthalpy is 95 kJ/kgd.a. Use both Formulas and psychrometric chart in solving.
3. The atmospheric conditions of the air−water vapor mixture are: Barometric pressure= 101.325 kN/m2, temperature= 25 0C dbt, and specific humidity= 10 gv/kgd.a.

Calculate:

i. Partial pressure of steam in the air.

ii. Relative humidity.

iii. Dew point temperature.

iv. 𝒗 (m3/kgd.a).

Use both Formulas and psychrometric chart in solving.

1. Compute the specific humidity (𝐠𝐯/𝐤𝐠𝐝.𝐚) and specific volume (𝒎𝟑/𝒌𝒈𝒅.𝒂) when the air is at 60% RH, 𝟑𝟎℃ 𝐝𝐛𝐭, and the barometric pressure is 𝟏𝟎𝟏.𝟑 𝐤𝐍/𝐦𝟐. Use both Formulas and psychrometric chart in solving.
2. Five grams of water vapor per kg of atmospheric air is removed, while the temperature of the air after removing the water vapor becomes 25 0C dbt.

Calculate:

a. Relative humidity.

b. Dew point temperature.

Assume the conditions of the atmospheric air are 35 0C, 60% RH and the barometric pressure is101.303 KN/m2.

Use both Formulas and psychrometric chart in solving.