

Quiz 2 (09-02-2022)

- This Quiz is for 5 Points
- Each question carries 0.5 point
- No late Submission are allowed (-1 marks for Late Submissions)

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*** Required**

A 300 m3 rigid tank is filled with saturated liquid-vapor mixture of water at 200 kPa. If 25% of the mass is liquid and the 75% of the mass is vapor, the total mass in the tank is *

- ☐ 556 kg
- ☐ 331 kg
- ☐ 300 kg
- ☒ 451 kg

Determine the specific internal energy of water at 200 kPa and 300 oC. *

- ☐ 280.88 kJ/kg
- ☐ 200.23 kJ/kg
- ☐ 3508.5 kJ/kg
- ☒ 2808.8 kJ/kg

A 1-m3 rigid tank contains 10 kg of water (in any phase or phases) at 170°C. The pressure in the tank is *

- ☐ 2007 kPa
- ☒ 738 kPa
- ☐ 70 kPa
- ☐ 792 kPa



The units of the isothermal compressibility are. *

- ☒ Pa⁽⁻¹⁾
- ☐ m⁽⁻³⁾
- ☐ Option 4
- ☐ m⁽³⁾Pa⁽⁻¹⁾

Steam at 4 bar and 500 oC is *

- ☐ Saturated
- ☐ Can't say
- ☐ Wet
- ☒ Superheated

Determine the temperature of water at a state of P = 0.5 MPa and h = 2890 kJ/kg. *

- ☒ 216 oC
- ☐ 200 oC
- ☐ 250 oC
- ☐ 150 oC

The compressibility factor of any gas *

- ☐ is always equal to 1
- ☒ may be less than, equal to or greater than 1 depending on the nature of gas
- ☐ is always greater than 1
- ☐ is always less than 1



Ideal gas law is applicable at *

- ☐ Low T, low P
- ☐ High T, high P
- ☐ Low T, high P
- ☒ High T, low P

What would be the pressure of compressed water having specific volume (v) 0.0009996 m3/kg at 20 oC? *

- ☐ 30 MPa
- ☐ 50 MPa
- ☐ 20 MPa
- ☒ 5 MPa

A solid transformed into vapour without going to the liquid phase at. *

- ☐ Below triple point
- ☐ Boiling point
- ☐ Always
- ☒ Triple point

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