# Quiz 2 (09-02-2022)

Total points 9/10

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

The respondent's email (**choudhary.21@iitj.ac.in**) was recorded on submission of this form.

✓ 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 * 1/1

- ○ 556 kg
- ○ 331 kg
- ○ 300 kg
- ◉ 451 kg ✓

✓ Determine the specific internal energy of water at 200 kPa and 300 oC. * 1/1

- ○ 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 * 0/1

- ○ 2007 kPa
- ◉ 738 kPa ✗
- ○ 70 kPa
- ○ 792 kPa

Correct answer

- ◉ 792 kPa

✓ The units of the isothermal compressibility are. * 1/1

- ◉ Pa^(-1) ✓
- ○ m^(-3)
- ○ Option 4
- ○ m^(3)Pa^(-1)

✓ Steam at 4 bar and 500 oC is * 1/1

- ○ Saturated
- ○ Can't say
- ○ Wet
- ◉ Superheated ✓

✓ Determine the temperature of water at a state of P = 0.5 MPa and h = 2890 kJ/kg. * 1/1

- (●) 216 oC ✓
- ( ) 200 oC
- ( ) 250 oC
- ( ) 150 oC

✓ The compressibility factor of any gas * 1/1

- ( ) 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 * 1/1

- ( ) 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? * 1/1

- ○ 30 MPa
- ○ 50 MPa
- ○ 20 MPa
- ◉ 5 MPa ✓

✓ A solid transformed into vapour without going to the liquid phase at. * 1/1

- ○ Below triple point
- ○ Boiling point
- ○ Always
- ◉ Triple point ✓

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