Review Quiz

Abbasi, Nasser - 0 / 0 (0.00%)

1. Correct! [0 / 0 pts] An reversible process is isentropic.
   - ○ True
   - ◉ False
2. Correct! [0 / 0 pts] If there is negligible KE and PE, what is the driving force for gas or fluid flow?
   - ○ Valve
   - ◉ Pressure difference
   - ○ Temperature gradient
   - ○ The FORCE
3. Correct! [0 / 0 pts] An insulated frictionless piston cylinder assemply is subjected to a slow changing external force until the volume is reduced by 50%. What can we assume about this process?
   - ○ Isobaric
   - ○ Isothermal
   - ◉ Isentropic
   - ○ Ideal Gas
4. Correct! [0 / 0 pts] A control volume is what type of system?
   - ◉ Open System
   - ○ Closed System
   - ○ Isolated System
   - ○ System International
5. Correct! [0 / 0 pts] What is the absolute temperature scale for the metric system?
   - ○ Rankine
   - ○ Celcius

- (●) Kelvin
- ( ) Farenhiet

6. Correct! [0 / 0 pts] Which are intensive properties?
   - [ ] specific volume
   - [ ] mass
   - [x] density
   - [x] specific energy
   - [x] Temperature
7. Correct! [0 / 0 pts] What is the quality of a superheated vapor?
   - ( ) 0
   - ( ) 1
   - ( ) .666
   - (●) undefined
8. Incorrect [0 / 0 pts] Which pairs of properties can you use to define a state under a dome.
   - [ ] P and T
   - [x] P and v
   - [ ] h and T
   - [ ] x and P
9. Ungraded [0 pts] A tank with a temperature of 100 degrees C and at atmospheric pressure contains water. Heat is added to the tank and liquid water is drawn from the bottom of the tank until half the mass is gone. What is the quality of the exiting water?

   0

   The Quality is 0

10. Ungraded [0 pts] The energy term in teh first law equation contains what kinds of energy?

    heat

    Potential, Kinetic, and Internal Energy

11. Ungraded [0 pts] What is the Zeroth Law of Thermodynamics?

if body A is the

if two bodies (systems) have equality of temperature with a third body (system), then the two bodies systems) have equality of temperature (are in thermal equilibrium) with each other.

12. Incorrect [0 / 0 pts] What factors can make things irreversible?
    - ☑ Friction
    - ☐ Unrestrained expansion
    - ☑ mixing of two different substances
13. Correct! [0 / 0 pts] A heat engine recieves 1000 KJ of heat from a 1500 K source and ejects 400 KJ of heat to a 300 K source. What is the efficiency of the engine?
    - ○ .8
    - ◉ .6
    - ○ .4
    - ○ .2
14. Correct! [0 / 0 pts] For a polytropic process what is the value of n when the system moves from state 1 to state 2 while maintaining the same temperature?
    - ○ 0
    - ◉ 1
    - ○ k
    - ○ infinity
15. Correct! [0 / 0 pts] When is total entropy generated less than zero
    - ○ When you have heat flow out of the system
    - ○ When you have a carnot engine and there is an isothermal compression.
    - ○ When the sahara freezes over
    - ◉ Never
16. Incorrect [0 / 0 pts] Which or the following is a pure substance
    - ☑ 100% saturated liquid water
    - ☐ mixture of liquid and gaseous ammonia
    - ☐ mixture of oil and water
    - ☐ a penny
17. Correct! [0 / 0 pts] Work is done only if we have a changing boundary.

- ○ True ◉ False

18. Correct! [0 / 0 pts] A 1 cubic meter rigid tank has 1 kg water at 1000 kPa. The fluid is taken out of the tank till the specific volume is 1/10 of the original specific volume and the pressure is 100 kPa. How much work was done?
    - ○ 495 J
    - ○ -495 J
    - ◉ 0 J
    - ○ 900 J
19. Correct! [0 / 0 pts] A steel ball in space is at 1000 K when in direct sunlight. When it is shadowed from the sun by the Earth during its orbital path it is quickly cooled down to 4 K. What methods of heat transfer could have been used to cool down the solar panel.
    - ☐ Conduction
    - ☐ Convection
    - ☑ Radiation
20. Correct! [0 / 0 pts] Energy is a path function
    - ○ True ◉ False
21. Correct! [0 / 0 pts] What is the definition of h?
    - ○ h = Pv
    - ○ h = u - v
    - ◉ h = u + pv
    - ○ h = Cv*T
22. Correct! [0 / 0 pts] Internal energy is ONLY a function of temperature for an IDEAL GAS
    - ◉ True ○ False
23. Correct! [0 / 0 pts] We consider solids and liquids to be nearly incompressible.
    - ◉ True ○ False
24. Correct! [0 / 0 pts] Steady flow process is one where
    - ☐ Only Intensive properties cannot vary with time, but Extensive properties may be varied.
    - ☑ Heat transfer rates are not varied with time.
    - ☐ There can be a mass build-up in the device.

- ☑ Work rates are not varied with time.

25. Incorrect [0 / 0 pts] Which of the following devices is a steady flow device
    - ☑ Nozzle
    - ☑ Throttle
    - ☑ Turbine
    - ☐ Heat Exchanger
26. Correct! [0 / 0 pts] Popping a party balloon in an insulated room is an reversible process.

    ○ True ◉ False

27. Correct! [0 / 0 pts] A carnot heat engine can be irreversible.

    ○ True ◉ False

28. Correct! [0 / 0 pts] Total entropy always increases in every process.

    ○ True ◉ False

    In a reversible process enthropy stays the same. Entropy can never decrease.

29. Correct! [0 / 0 pts] An ideal gas with constant specific heat undergoes an adiabatic and reversible process. What is the value of n?
    - ○ Undefined
    - ○ 1
    - ○ 0
    - ◉ k
30. Correct! [0 / 0 pts] Fuzz ROCKS! :)

    ◉ True ○ False

    Such a good student! :)

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http://eee.uci.edu/toolbox/quiz/release.php
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