

Question 38921-02
0.14-70%

System A (one kilogram of ice at zero degrees Celsius) is added to system B (one kilogram of water at 100 degrees Celsius) in an insulator container. Calculate the total change in entropy of system A.

- (a) Infinite.
- (b) 6.00 kJ/K.
- (c) -1.41 kJ/K.
- (d) 1.36 kJ/K.
- (e) 1.20 kJ/K.

Question 39021-02
0.67-40%

A 5.00-kg block of copper is at 296 K. If it is heated such that its entropy increases by 1.07 kJ/K, what is the final temperature? [The specific heat of copper is 386 J/(kg*K)]

- (a) 760 K.
- (b) 273 K.
- (c) 310 K.
- (d) 515 K.
- (e) 100 K.

21-3 The Second Law of ThermodynamicsQuestion 391

21-03

Which of the following statements are CORRECT:

1. Two objects are in thermal equilibrium if they have the same temperature.
2. In an isothermal process, the work done by an ideal gas is equal to the heat energy
3. In an adiabatic process, no heat enters or leaves the system.
4. The thermal efficiency of an ideal engine can be = 1.0.
5. For any process the change in entropy of a closed system < 0 .

- (a) 1, 2, and 3.
- (b) 3 and 5.
- (c) 4 and 5.
- (d) 1, 2 and 5.
- (e) 1 and 4.

Question 39221-03
0.30-60%

Which of the following statements are WRONG:

1. The efficiency of the ideal engine is greater than one.
2. The change in entropy is zero for reversible isothermal processes.
3. In cyclic processes, the change in entropy is zero.
4. If steam is condensed, its entropy will decrease.
5. If ice is melted, its entropy will decrease.

- (a) 1, 2 and 4.
- (b) 1, 2 and 5.
- (c) 2, 3 and 4.
- (d) 1, 3 and 5.
- (e) 1, 2 and 3.