Question 1

When a thermal energy reservoir absorbs or supplies heat, its temperature is always unchanged. Likewise, its entropy is always unchanged.

Selected Answer: False

Question 2

There is no entropy generation or entropy change in an adiabatic and reversible process.

Selected Answer: True

Question 3

Entropy cannot be transferred by the flow of liquids, only gases.

Selected Answer: False

Question 4

Friction in a process generates entropy.

Selected Answer: True

Question 5

Entropy can never decrease in adiabatic closed systems.

Selected Answer: True

Question 1

When a thermal energy reservoir absorbs or supplies heat, its temperature is always unchanged. Likewise, its entropy is always unchanged.

Selected Answer: It depends on the amount of heat transferred.

Response Feedback: Entropy is transferred by heat and hence, there is always entropy change.

Question 2

For any thermodynamic process, there is no difference between entropy generation and entropy change.

Selected Answer: False

Question 3

The total entropy change in an isolated system must be greater than all the entropy generated in its sub-systems.

Selected Answer: True

Response Feedback: The total entropy change in an isolated system is equivalent to the entropy generated in the system.

Question 4

There is no entropy change in a control volume for a steady state, steady flow process.

Selected Answer: True

Question 5

Entropy can never decrease in adiabatic closed systems.

Selected Answer: True

Question 1

There is no entropy change in a control volume for a steady state, steady flow process.

Selected Answer: True

Question 2

When a thermal energy reservoir absorbs or supplies heat, its temperature is always unchanged. Likewise, its entropy is always unchanged.

Selected Answer: False

Question 3

Which of the following statements are true?

i. Entropy is always generated in an irreversible process.
ii. Entropy can decrease in isolated systems .
iii. Entropy can decrease in closed systems .
iv. There is no entropy change in adiabatic closed systems since there is no heat transfer.

Selected Answer: i and iv

Response Feedback: There is entropy generation due to irreversibilities, even in the absence of heat transfer. Entropy change in closed systems can be negative due to heat loss. However, entropy change in isolated systems is equivalent to entropy generation and can never be negative.

Question 4

Entropy can be transferred to and from flow control volumes via work.

Selected Answer: False

Question 5

For any thermodynamic process, there is no difference between entropy generation and entropy change.

Selected Answer: False

Question 1

When a thermal energy reservoir absorbs or supplies heat, its temperature is always unchanged. Likewise, its entropy is always unchanged.

Selected Answer: False

Question 2

For any thermodynamic process, there is no difference between entropy generation and entropy change.

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Question 3

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i. Entropy is always generated in an irreversible process.
ii. Entropy can decrease in isolated systems .
iii. Entropy can decrease in closed systems .
iv. There is no entropy change in adiabatic closed systems since there is no heat transfer.

Selected Answer: i and iii

Question 5

There is no entropy change in a control volume for a steady state, steady flow process.

Selected Answer: True

Question 1

When a thermal energy reservoir absorbs or supplies heat, its temperature is always unchanged. Likewise, its entropy is always unchanged.

Selected Answer: False

Question 2

Which of the following statements are true?

i. Entropy is always generated in an irreversible process.
ii. Entropy can decrease in isolated systems .
iii. Entropy can decrease in closed systems .
iv. There is no entropy change in adiabatic closed systems since there is no heat transfer.

Selected Answer: i, iii and iv

Response Feedback: There is entropy generation due to irreversibilities, even in the absence of heat transfer. Entropy change in closed systems can be negative due to heat loss. However, entropy change in isolated systems is equivalent to entropy generation and can never be negative.

Question 3

For any thermodynamic process, there is no difference between entropy generation and entropy change.

Selected Answer: False

Question 4

Entropy can be transferred to and from flow control volumes via work.

Selected Answer: False

Question 5

Friction in a process generates entropy.

Selected Answer: True