1. What is a key characteristic of a closed system?

a) It interacts with its environment
b) It exchanges matter and energy with its surroundings
c) It is not influenced by external factors
d) It is dynamic and adaptable

Answer: c) It is not influenced by external factors

Explanation: Closed systems are characterized by their lack of interaction with their environment. They do not exchange matter or energy with their surroundings, thus making them self-contained and unaffected by external influences.

2. Which type of control system anticipates and prevents potential issues before they occur?

a) Feedback control
b) Feedforward control
c) Open control
d) Closed control

Answer: b) Feedforward control

Explanation: Feedforward control is proactive and anticipatory, aiming to prevent problems before they occur by adjusting inputs based on anticipated changes in the system or environment.

3. According to the law of requisite variety, what is required for a system to successfully handle complexity?

a) More components
b) More constraints
c) More control mechanisms
d) Sufficient variety

Answer: d) Sufficient variety

Explanation: The law of requisite variety states that for a control system to successfully manage the complexity of a system, it must possess at least as much variety as the system it is controlling.

4. Which term refers to the degree of interconnection between subsystems within a system?

a) Feedback
b) Entropy
c) Coupling
d) Stress

Answer: c) Coupling

Explanation: Coupling refers to the degree of interdependence or interconnectedness between subsystems within a larger system.

5. In Steven Alter’s nine-element work system model, which element represents the procedures and policies guiding work activities?

a) People
b) Processes

c) Environment
d) Information

Answer: b) Processes

Explanation: Processes in Alter’s model represent the procedures and policies guiding work activities within a system.

6. What is the primary focus of the IPO (Input-Processing-Output) model?

a) System boundaries
b) System feedback
c) System structure
d) System components

Answer: d) System components

Explanation: The IPO model focuses on identifying and understanding the inputs, processing, and outputs of a system.

7. Which characteristic distinguishes an open system from a closed system?

a) Interaction with the environment
b) Self-containment
c) Lack of entropy
d) Static nature

Answer: a) Interaction with the environment

Explanation: Open systems interact with their environment, exchanging matter and energy, while closed systems do not.

8. What concept suggests that systems tend to become disordered and less organized over time?

a) Entropy
b) Feedback
c) Coupling
d) Variety

Answer: a) Entropy

Explanation: Entropy refers to the tendency of systems to become disordered and less organized over time, leading to a loss of energy and efficiency.

9. According to Alter’s model, which element represents the tools and equipment used in work activities?

a) People
b) Technology
c) Environment
d) Outputs

Answer: b) Technology

Explanation: Technology in Alter’s model represents the tools and equipment used in work activities within a system.

10. What is the ultimate goal of optimizing the structure and performance of work systems according to Steven Alter?

a) Maximizing entropy
b) Minimizing variety
c) Achieving customer delight
d) Increasing feedback

Answer: c) Achieving customer delight

Explanation: The ultimate goal of optimizing work systems is to enhance performance and structure in a way that leads to customer satisfaction and delight.

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