Chapter 2 – Test Questions

Multiple Choice with Single Answers

Some notable features of a system are that:
(a) it is an assembly of parts (elements)
(b) the assembly of parts is affected by being in the system
(c) the assembly of parts is of particular interest
(d) the assembly of parts does something or has a goal
(e) all of the above

Answer: e

The characteristics, or distinguishing features of a system are its
(a) elements
(b) attributes
(c) subsystems

Answer: b

Reference: 2.2 Systems Concepts and Principles

The form of relationships or linkages among the elements of a system is referred to as
(a) structure
(b) constraints
(c) boundaries
(d) subsystems

Answer: a

Reference: 2.2 Systems Concepts and Principles

A role of feedback is to:
(a) keep the subsystems within the system
(b) alter the environment to conform to system objectives
(c) signal the system that it is deviating from its objectives
(d) set the objectives of the system

Answer: c

Reference: 2.2 Systems Concepts and Principles

Most systems, including projects, can be conceptualized as (circle one):
(a) hierarchical systems
(b) natural systems

(c) network systems
(d) all of the above
(e) both (a) and (c)

Answer: e

Reference: 2.2 Systems Concepts and Principles

Managing a system to achieve effective, coordinated functioning of its elements working toward system objectives is called (circle one):
(a) systems definition
(b) systems integration
(c) systems development
(d) systems forecasting

Answer: b

Reference: 2.2 Systems Concepts and Principles

In the systems approach, the problem solver keeps in mind:
(a) the optimal efficiency of the parts of the system
(b) the management and resources of the system
(c) the objectives and environment of the system
(d) all of the above
(e) b and c only

Answer: e

Reference: 2.3 Systems Approach

The three main "dimensions" of systems engineering are:
(a) multidisciplinary, modularization, life cycle
(b) life cycle, models, stakeholders
(c) systems, subsystems, and components

Answer: a

Reference: 2.4 Systems Engineering

Multiple Choice with Multiple Answers

Which of the following are true (circle all that apply):
(f) the smallest part of a system is an element

(g) a subsystem can be viewed as an element of a system
(h) it is usually easy to define the boundary of a complex system
(i) all living things are open systems

Answer: a, b, d

Reference: 2.1 Systems and System Thinking

The function of project managers is to (circle all that apply):
(a) mediate between the higher (institutional) levels and lower (technical) levels in the project
(b) integrate and coordinate the tasks of the technical level in the project
(c) conceive the long-term goals of the organization
(d) provide detailed guidance and control over all work at the technical level

Answer: a, b

Reference: 2.1 Systems and System Thinking

The systems approach is a framework for (circle all that apply):
(a) looking at problems
(b) identifying and focusing exclusively on the parts of a system
(c) isolating the parts of the system from the whole system
(d) finding solutions to problems

Answer: a, d

Reference: 2.3 Systems Approach

Which of the following best reflect the systems approach (circle all that apply):
(a) breakeven analysis
(b) statistical quality control techniques
(c) project management
(d) systems engineering
(e) time and motion study; methods analysis

Answer: c, d

Reference: 2.3 Systems Approach

Choose from among the following 4 terms to correctly fill in the 3 blanks in the statement:
(a) feedback
(b) inputs
(c) processes
(d) outputs

Statement: Human-made systems convert_____ into _____using _____.

Answer: inputs, outputs, processes

True or False?

Statement: In “systems thinking,” things are broken down into parts, and the parts are analyzed separately.

Answer: FALSE

Reference: 2.1 Systems and System Thinking

Statement: Systems thinking means being able to perceive the “system” in a situation.

Answer: TRUE

Reference: 2.1 Systems and System Thinking

Statement: What comprises the “system” in a problem or situation always remains the same, regardless who defines the system.

Answer: FALSE

Reference: 2.1 Systems and System Thinking

Statement: The objectives of a human-made system can be broken down into requirements, which are the specific criteria to which the system must conform.

Answer: TRUE

Reference: 2.2 Systems Concepts and Principles

Statement: The environment of a system is something that influences the system but that the system designer cannot control.

Answer: FALSE

Reference: 2.2 Systems Concepts and Principles

Statement: An open system is viewed as self-contained and independent of the environment.

Answer: FALSE

Reference: 2.2 Systems Concepts and Principles

Statement: Project organizations are natural systems.

Answer: TRUE

Reference: 2.2 Systems Concepts and Principles

Statement: Human organizations are best managed as if they were closed systems.

Answer: FALSE

Reference: 2.2 Systems Concepts and Principles

Statement: The “environmental fallacy” means that most problems can be viewed as independent of the environment because solutions tend not to influence the environment.

Answer: FALSE

Reference: 2.3 Systems Approach

Statement: The systems approach says: “Let's stand back and look at this situation from different angles.”

Answer: TRUE

Reference: 2.3 Systems Approach

Statement: The role of management in systems is to plan and control the systems so that overall system objectives are achieved.

Answer: TRUE

Reference: 2.3 Systems Approach

Statement: Systems engineering is a way of bringing a whole system into being and accounting for its full life cycle during early design and development.

Answer: TRUE

Reference: 2.4 Systems Engineering

Statement: The V-model illustrates the cycles of analysis, synthesis, and evaluation within the systems engineering process.

Answer: TRUE

Reference: 2.4 Systems Engineering

Statement: System architecture refers to the way that functions and components are "modularized" or clustered into groups within a system.

Answer: TRUE

Reference: 2.4 Systems Engineering

Statement: In systems engineering, the customer and contractor work interactively to define the problem, needs, and requirements.

Answer: TRUE

Reference: 2.4 Systems Engineering