“Systems Analysis and Design” Online Course

Example of Midterm # 1 (“Midterm” Learning Object)

True-False Questions (1 point each)

1. Systems thinking is a key analytical skill.
2. Resource, project, risk, and organizational knowledge are the four sets of analytical skills required by a systems analyst.
3. A system is an interrelated set of components, with an identifiable boundary, working together for some purpose.
4. Accounts payable, accounts receivable, and payroll are components of an accounting system.
5. A dependent component is a subsystem that relies on another subsystem for its input.
6. Customers, suppliers, and mechanics are part of an automobile repair shop’s environment.
7. Components within a boundary can be changed whereas components outside a boundary cannot be changed.
8. Security, filtering, coding and decoding, and buffering are interface functions.
9. An open system interacts freely with its environment, taking in input and returning output.
10. All business information systems are open systems.
11. Modularity is the process of breaking a system into its components.
12. Cohesion is the extent to which subsystems depend on each other.
13. Subsystems should be loosely coupled with each other.
14. A logical system description focuses on the system’s function and purpose without regard to how the system will be physically implemented.
15. A logical system description would specify that a system should accept orders, route orders to the warehouse, and generate invoices, but would not specify a particular hardware/software platform.
16. A physical system description would specify that a system should check inventory levels and place orders for items low in stock, but this description would not specify a particular hardware/software platform.
17. A physical system description is developed before a logical system description.
18. For every physical system description, there are several logical system descriptions.
19. A systems analyst should be aware of an organization’s policies, standards of practice, informal organization structure, and values and mission.
Multiple Choice Questions (1 point each)

1. Which of the following skills is the most important for the systems analyst to possess?
   a. interpersonal skills
   b. analytical skills
   c. technical skills
   d. all of the above

2. An interrelated set of components, with an identifiable boundary, working together for some purpose, best defines:
   a. environment
   b. system component
   c. system
   d. constraint

3. Which of the following is not a system characteristic?
   a. interface
   b. boundary
   c. input
   d. scope

4. Dependence of one subsystem on one or more subsystems defines:
   a. interrelated components
   b. boundary
   c. component
   d. dependency

5. The line that marks the inside and outside of a system, and that sets off the system from its environment, best defines:
   a. delineation mark
   b. boundary
   c. scope
   d. interface

6. The overall goal or function of a system best defines:
   a. purpose
   b. goal
   c. objective
   d. scope

7. The environment of a state university would not include:
   a. students
   b. the legislature
   c. the president’s office
   d. news media
Fill In the Blanks (1 point each)

1. A **system** is an interrelated set of components, with an identifiable boundary, working together for some purpose.

2. A **component** is an irreducible part or aggregation of parts that make up a system.

3. **Interrelated components** refers to the dependence of one subsystem on one or more subsystems.

4. A **boundary** is the line that marks the inside and outside of a system and that sets off the system from its environment.

5. A **purpose** is the overall goal or function of a system.

6. **Environment** refers to everything external to a system that interacts with the system.

7. An **interface** is the point of contact where a system meets its environment or where subsystems meet each other.

8. A **constraint** is a limit to what a system can accomplish.

9. **Input** is whatever a system takes from its environment in order to fulfill its purpose.

10. **Output** is whatever a system returns to its environment in order to fulfill its purpose.

11. An **open system** is a system that interacts freely with its environment, taking input and returning output.

12. A **closed system** is a system that is cut off from its environment and does not interact with it.

13. **Modularity** refers to dividing a system up into chunks or modules of a relatively uniform size.

14. **Coupling** is the extent to which subsystems depend on each other.

15. **Cohesion** is the extent to which a system or a subsystem performs a single function.

16. **Logical system description** describes a system, focusing on the system’s function and purpose without regard to how the system will be physically implemented.

17. **Physical system description** describes a system, focusing on how the system will be materially constructed.

18. **Intelligence, design, choice, and implementation** are the four phases of Simon’s problem-solving approach.

19. **Risk management** is the ability to anticipate what might go wrong in a project.

20. **Communication skills, working alone and with a team, facilitating groups, and managing expectations of users and managers** are four important interpersonal skills.
**Matching Questions (2 points each)**

Match each of the following terms with its definition.

- a. open system
- b. modularity
- c. coupling
- d. decomposition
- e. closed system

1. The extent to which subsystems depend on each other
2. Dividing a system up into chunks of a relatively uniform size
3. Breaking down a system into its components
4. A system that interacts freely with its environment, taking input and returning output
5. A system that is cut off from its environment and does not interact with it

Match each of the following skills with its appropriate area of involvement.

- a. technical
- b. analytical
- c. management
- d. interpersonal

1. Involves systems thinking, organizational knowledge, problem identification, and problem analyzing and solving
2. Involves understanding how computers, data networks, database management and operating systems, and a host of other technologies work, their potential, and their limitations
3. Involves resource, project, risk, and change management
4. Involves communication skills, working alone and with a team; facilitating groups, and managing expectations of users and managers
Match each of the following terms with its definition.

a. component
b. interrelated components
c. boundary
d. purpose
e. interface
f. environment
g. input
h. output
i. constraint

1. An irreducible part or aggregation of parts that make up a system
2. Dependence of one subsystem on one or more subsystems
3. The overall goal or function of a system
4. Point of contact where a system meets its environment or where subsystems meet each other
5. A limit to what a system can accomplish
6. Everything external to a system that interacts with the system
7. The line that marks the inside and outside of a system
8. Whatever a system takes from its environment in order to fulfill its purpose
9. Whatever a system returns to its environment in order to fulfill its purpose