

System Design Test

Directions: Answer 10 of the 13 questions.

Components of a Computer System

1.2.1 Define the terms: hardware, software, peripheral, network, human resources

1. Define the terms: hardware, software, peripheral, network, human resources.

Hardware – physical parts of the computer

Software – programs that run on the hardware

Peripherals – a device that connects to a computer (mouse, keyboard, etc.)

Network – a group of computers connected together

Human Resources – skills, energies, talents, abilities and knowledge that are used for production or rendering a service

2. Describe a social or ethical issue that has arisen because of the networking of computers.

Answer will vary: Security, Privacy, Censorship,

System Design and Analysis

1.2.5 Describe methods of obtaining requirements from stakeholders

3. Describe two methods used to obtain information from stakeholders.

Surveys, Questionnaires, Interviews, Direct Observation

1.2.7 Construct suitable representations to illustrate system requirements

4. List three methods used to illustrate system requirements.

Flow Chart, Input and Outputs, Data Flow Diagram, Structure Chart

5. Construct a system flow chart that represents the ice machine system in a refrigerator.

Answers will vary: press button, is button pressed, yes – dispense ice, no loop back to press button

6. List 5 inputs and 5 outputs in a computer system.

Inputs: keyboard, mouse, microphone, scanner, camera, track ball, different kinds of sensors

Outputs: printers, speakers, monitors, motors, heaters, electromagnets, LED bulbs

7. Construct a structure chart for a computer program that manages the purchase of fireworks at a fireworks stand.

Fireworks Stand

Select Fireworks, Pay for Fireworks, Take Fireworks Home

Stock Inventory, Sell Fireworks, Restock Inventory

1.2.8 Describe the purpose of prototypes to demonstrate the proposed system to the client.

8. Describe the purpose of prototypes to demonstrate the proposed system to the client.

Gives a visual model for the client so they can see what the system will look like and gives them the opportunity to suggest changes.

1.2.9 Discuss the importance of iteration during the design process.

9. List the six stages in the SDLC.

Feasibility, Analysis, Design, Implement, Test, Maintain

10. Why is the iterative approach to the SDLC better than a linear approach?

Supports human learning better, provides the ability to make changes in a more efficient manner

1.2.10 Explain the possible consequences of failing to involve the end-user in the design process

11. Explain the possible consequences of failing to involve the end-user in the design process.

The system may not be suitable for its intended use.

1.2.14 Identify methods that can be used to improve the accessibility of systems

12. Identify methods that can be used to improve the accessibility of systems.

Touch-screens, voice-recognition, text-to-speech, trackballs, joysticks Braille keyboard, switches

1.2.16 Discuss the moral, ethical, social, economic and environmental implications of the interaction between humans and machines.

13. Discuss the (**choose one**: moral, ethical, social, economic, or environmental) implications of the interaction between humans and machines.

Answers will vary

Piracy

Cyber-bullying

Privacy issues

Improper use

Increase global interaction

Job creation/ loss

Online commerce

Increased communication