Concepts Chapter 1

1. Explain why computer literacy is vital to success in today's world
2. Describe the five components of a computer
3. Discuss the advantages and disadvantages that users experience when working with computers
4. Discuss the uses of the Internet and World Wide Web
5. Distinguish between system software and application software

See Page 1 for Detailed Objectives
Differentiate among types, sizes, and functions of computers in each category.

Explain how home users, small office/home office users, mobile users, power users, and enterprise users each interact with computers.

Discuss how society uses computers in education, finance, government, health care, science, publishing, travel, and manufacturing.
Recognize how Web pages use graphics, animation, audio, video, virtual reality, and plug-ins

Identify the steps required for Web publishing

Explain how e-mail, mailing lists, instant messaging, chat rooms, VoIP, FTP, and newsgroups and message boards work

Identify the rules of netiquette

See Page 55 for Detailed Objectives
Identify the four categories of application software

Describe characteristics of a user interface

Identify the key features of widely used business programs

Identify the key features of widely used graphics and multimedia programs

See Page 107 for Detailed Objectives
Concepts Chapter 3

- Identify the key features of widely used home, personal, and educational programs
- Identify the types of application software used in communications
- Describe the learning aids available for application software

See Page 107 for Detailed Objectives
Concepts Chapter 4

Differentiate among various styles of system units on desktop computers, notebook computers, and mobile devices

Describe the control unit and arithmetic logic unit components of a processor, and explain the four steps in a machine cycle

Define a bit and describe how a series of bits represents data

Differentiate among the various types of memory

See Page 155 for Detailed Objectives
Concepts Chapter 4

- Describe the purpose and types of expansion slots and adapter cards
- Differentiate between a port and a connector, and explain the differences among a USB port and other ports
- Describe the types of buses in a computer
- Understand how to clean a system unit on a computer or mobile device

See Page 155 for Detailed Objectives
Concepts Chapter 5

- Identify the keys and buttons commonly found on desktop computer keyboards, and describe how keyboards for mobile computers and devices differ from desktop computer keyboards.
- Describe different mouse types.
- Describe various types of touch screens and explain how a touch-sensitive pad works.
- Describe various types of pen input.

See Page 187 for Detailed Objectives
Describe the characteristics of an internal hard disk including capacity, platters, read/write heads, cylinders, sectors and tracks, and revolutions per minute

Discuss the purpose of network attached storage devices, external and removable hard disks, and hard disk controllers

Describe the various types of flash memory storage

Describe cloud storage and explain its advantages
Concepts Chapter 6

- Describe the characteristics of optical discs
- Differentiate among various types of optical discs
- Identify the uses of tape, magnetic stripe cards, smart cards, microfilm and microfiche, and enterprise storage

See Page 237 for Detailed Objectives
Concepts Chapter 7

- Define system software and identify the two types of system software
- Describe the functions of an operating system
- Summarize the features of several stand-alone operating systems
- Identify various server operating systems
- Briefly describe several embedded operating systems
- Explain the purpose of several utility programs

See Page 269 for Detailed Objectives
Discuss the purpose of the components required for successful communications

Describe these uses of computer communications: wireless messaging services, wireless Internet access points, cybercafés, global positioning systems, collaboration, groupware, voice mail, and Web services

Differentiate among types of networks: LANs, MANs, and WANs

Explain the purpose of communications software
Concepts Chapter 8

- Describe various types of lines for communications over the telephone network
- Describe commonly used communications devices
- Discuss different ways to set up a home network
- Describe various physical and wireless transmission media

See Page 313 for Detailed Objectives
Define the term, database, and explain how a database interacts with data and information

Describe the qualities of valuable information

Discuss the terms character, field, record, and file

Describe file maintenance techniques (adding records, modifying records, deleting records) and validation techniques

Differentiate between a file processing approach and the database approach

See Page 351 for Detailed Objectives
Concepts Chapter 9

Discuss the functions common to most database management systems

Describe characteristics of relational, object-oriented, and multidimensional databases

Explain how to access Web databases

Discuss the responsibilities of database analysts and administrators

See Page 351 for Detailed Objectives
Describe various types of network attacks, and identify ways to safeguard against these attacks, including firewalls and intrusion detection software.

Discuss techniques to prevent unauthorized computer access and use.

Identify safeguards against hardware theft and vandalism.

Explain the ways to protect against software theft and information theft.
Discuss the types of devices available that protect computers from system failure

Identify risks and safeguards associated with wireless communications

Discuss ways to prevent health-related disorders and injuries due to computer use

Discuss issues surrounding information privacy

See Page 381 for Detailed Objectives
Concepts Chapter 11

Discuss the importance of project management, feasibility assessment, documentation, and data and information gathering techniques

Discuss the purpose of each system development phase

Differentiate between low-level languages and procedural languages

Identify the benefits of object-oriented programming languages and program development tools

See Page 417 for Detailed Objectives
Concepts Chapter 11

- List other programming languages and other program development tools
- Describe various ways to develop Web pages
- List the six program development steps
- Explain the basic control structures used in designing solutions to programming problems

See Page 417 for Detailed Objectives
Concepts Chapter 12

Discuss the special information requirements of an enterprise-sized corporation

Identify information systems and software used in the functional units of an enterprise

Describe and list general purpose and integrated information systems used throughout an enterprise

Describe and list types of technologies used throughout an enterprise

See Page 463 for Detailed Objectives
Describe virtualization, cloud computing, and grid computing

Discuss the computer hardware needs and solutions for an enterprise

Determine why computer backup is important and how it is accomplished

Discuss the steps in a disaster recovery plan