TEST BANK

Fundamentals of

Information Systems

6E

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Chapter 02: Hardware and Software

TRUE/FALSE

1. When making hardware decisions, the overriding considerations of a business should be technology cost and currency.

   ANS: F PTS: 1 REF: 62

2. Business needs and their importance are roughly the same for all companies so the IS solutions they choose are quite similar.

   ANS: F PTS: 1 REF: 63

3. People involved in selecting their organization's computer hardware need to clearly understand current and future business requirements so they can make informed acquisition decisions.

   ANS: T PTS: 1 REF: 63

4. The components responsible for processing - the CPU and memory - are housed together in the same box or cabinet, called the chip set.

   ANS: F PTS: 1 REF: 65

5. The clock speed affects machine cycle time and the rate at which the computer executes instructions.

   ANS: T PTS: 1 REF: 65

6. RAM stands for random access memory and loses its contents if the current is turned off or disrupted.

   ANS: T PTS: 1 REF: 65

7. Parallel processing is a form of multiprocessing and speeds processing by linking several processors to operate at the same time.

   ANS: T PTS: 1 REF: 66

8. Compared to main memory, secondary storage offers the advantages of volatility, increased capacity, and lower costs.

   ANS: F PTS: 1 REF: 67

9. RAID is a method of storing data so that it can be accessed more quickly.

   ANS: F PTS: 1 REF: 69

10. Solid state storage devices store data in memory chips rather than magnetic or optical media and require less power to operate while providing slower data access than magnetic data storage devices.

    ANS: F PTS: 1 REF: 70

11. The overall trend in secondary storage devices is toward use of direct access methods, higher capacity, and increased volatility.

    ANS: F PTS: 1 REF: 71

12. MICR is a technology from the 1950s still used to speed the processing of checks.

    ANS: T PTS: 1 REF: 73

13. Netbook computers are ideal for users who need to run demanding applications, have many applications open at once, or need lots of data storage capacity.

    ANS: F PTS: 1 REF: 78

14. A blade server houses many computer motherboards that include one or more processors, computer memory, secondary storage, network connections, and a common power supply and air-cooling source within a single chassis.

    ANS: T PTS: 1 REF: 80

15. Support for green computing is emerging as a new business strategy for computer manufacturers to distinguish themselves from the competition.

    ANS: T PTS: 1 REF: 81

16. Systems software consists of programs that help users solve particular computing problems.

    ANS: F PTS: 1 REF: 83

17. Information systems that operate within the enterprise sphere of influence support the firm in its interaction with customers, suppliers, shareholders, competitors, special-interest groups, the financial community, and government agencies.

    ANS: T PTS: 1 REF: 84

18. To run, applications request services from the operating system through a defined application program interface.

    ANS: T PTS: 1 REF: 86

19. Most operating systems support virtual memory, which allocates space on the hard disk to supplement the immediate, functional memory capacity of ROM.

    ANS: F PTS: 1 REF: 86

20. The ability of a computer to handle an increasing number of concurrent users smoothly is called multitasking.

    ANS: F PTS: 1 REF: 87

21. The Snow Leopard operating system allows users to view their system as it looked in the past and resurrect deleted files.

    ANS: T PTS: 1 REF: 88

22. Linux is not a full operating system and many distibutions of Linux are available with various sets of capabilities and applications to form a full operating system.

ANS: T PTS: 1 REF: 89

23. Utility programs help to perform maintenance, correct problems, merge and sort sets of data, keep track of computer jobs, and compress files of data.

ANS: T PTS: 1 REF: 93

24. Application programs interact with systems software, and the systems software directs computer hardware to perform the necessary tasks.

ANS: T PTS: 1 REF: 94

25. An application server provider is a company that can provide the software, support, and computer hardware on which to run the software from the user's facilities over a network.

ANS: T PTS: 1 REF: 95

26. Software as a service allows businesses to subscribe to Web-delivered business application software by paying a monthly service charge or a per use fee.

ANS: T PTS: 1 REF: 95

27. A software suite is a collection of single programs packaged together as a bundle and typically include word processing, spreadsheet, graphics, and more.

ANS: T PTS: 1 REF: 98

28. There are free Web-based productivity software suites that require no installation on the computer.

ANS: T PTS: 1 REF: 99

29. Programming languages are sets of keywords, symbols, and rules for constructing statements that people can use to communicate instructions to a computer.

ANS: T PTS: 1 REF: 103

30. Outsourcing global software support to one or more third-party distributors is gaining acceptance in North America.

ANS: T PTS: 1 REF: 104

MULTIPLE CHOICE

1. Choosing the right computer hardware requires understanding its relationship to the information system and ____ of the organization.
   a. growth
   b. business plan
   c. structure
   d. needs

ANS: D PTS: 1 REF: 64

2. Each central processing unit consists of two primary elements: the arithmetic/logic unit and the ____ unit.
   a. memory
   b. input/output
   c. control
   d. ALU

   ANS: C PTS: 1 REF: 64

3. A type of memory whose contents are not lost if the power is turned off is said to be ____.
   a. multicore
   b. nonvolatile
   c. RAM
   d. none of the above

   ANS: B PTS: 1 REF: 66

4. ____ is the use of a collection of computers, often owned by many people or different organizations, to work in a coordinated manner to solve a common problem.
   a. cloud computing
   b. grid computing
   c. parallel computing
   d. none of the above

   ANS: B PTS: 1 REF: 67

5. RAID storage devices provide organizations with data storage that is ____.
   a. fault tolerant
   b. exceedingly fast
   c. extremely low cost
   d. unlimited in storage capacity

   ANS: A PTS: 1 REF: 69

6. A(n) ____ uses computer servers, distributed storage devices, and networks to tie everything together.
   a. digital video disk
   b. virtual tape
   c. storage area network
   d. RAID storage device

   ANS: C PTS: 1 REF: 69

7. The ____ is an advanced optical disk technology still in development that would store more data than even the Blu-ray optical disk system.
   a. holographic versatile disc
   b. virtual tape
   c. RAID storage device
   d. CD-ROM R/W

   ANS: A PTS: 1 REF: 70

8. ____ are frequently used to capture input in standardized tests such as the SAT and GMAT.
   a. MICR readers
   b. OMR readers
   c. Speech recognition devices
   d. OCR readers

   ANS: B PTS: 1 REF: 72

9. An RFID tag on an inventory item might contain information ____.
   a. product information
   b. location data
   c. details about the item tagged
   d. all of the above

   ANS: D PTS: 1 REF: 73

10. ____ displays are flat displays that use liquid crystals to form characters and graphic images on a backlit screen.
    a. CRT
    b. Plasma
    c. OLED
    d. LCD

ANS: D PTS: 1 REF: 74

11. The ____ display monitor uses the least amount of power.
    a. OLED
    b. LCD
    c. Plasma
    d. CRT

    ANS: A PTS: 1 REF: 74

12. The ____ is a single user, nonportable computer designed to perform engineering, CAD, and software development work.
    a. desktop
    b. netbook
    c. workstation
    d. notebook

    ANS: C PTS: 1 REF: 79-80

13. ____ are the most powerful computers with the fastest processing speed and highest performance.
    a. Blade servers
    b. Workstations
    c. Mainframe computers
    d. Supercomputers

    ANS: D PTS: 1 REF: 80

14. Green computing is focused at the efficient and environmentally responsible ____ of IS related products.
    a. design and manufacture
    b. operation
    c. disposal
    d. all of the above

    ANS: D PTS: 1 REF: 81

15. People using commercially available software are usually asked to read and agree to a(n) ____.
    a. copyright agreement
    b. privacy statement
    c. end-user license agreement
    d. purchase order

    ANS: C PTS: 1 REF: 83

16. An information system that operates in the ____ sphere of influence supports two or more people who work together to achieve a common goal.
    a. personal
    b. workgroup
    c. enterprise
    d. none of the above

    ANS: B PTS: 1 REF: 84

17. The ____ features of the operating system allocate computer resources to make the best use of each system's assets.
    a. file management
    b. task management
    c. user interface
    d. multitasking

    ANS: B PTS: 1 REF: 86

18. An operating system with ____ capabilities allows a user to run more than one application at the same time.
    a. networking capability
    b. hardware independence
    c. memory management
    d. multitasking

    ANS: D PTS: 1 REF: 86

19. ____ is an open source operating system whose source code is freely available to everyone.

a. Unix
b. Snow Leopard
c. Linux
d. Red Hat

ANS: C PTS: 1 REF: 89

20. ____ is a powerful operating system originally developed by AT&T for use on minicomputers but now runs on workstations, servers, and mainframe computers.
a. z/OS
b. AIX
c. Unix
d. Linux

ANS: C PTS: 1 REF: 91

21. Embedded operating systems ____.
a. represent a small, niche market
b. are changing the way we interact with many household devices
c. are used in a narrow range of applications
d. all of the above

ANS: B PTS: 1 REF: 92

22. One advantage of proprietary software versus off-the-shelf software is that ____.
a. being involved in the development offers control over the results
b. the initial cost is lower
c. the software is likely to meet the basic business needs that are common across organizations
d. the software is likely to be of high quality because many customer firms have tested the software and helped identify its bugs

ANS: A PTS: 1 REF: 94

23. A risk involved with using an application service provider is that ____.
a. sensitive information could be compromised
b. the ASP could be incapable of keeping its servers and network up and running consistently
c. a disaster could disable the ASP's data center
d. all of the above

ANS: D PTS: 1 REF: 95

24. Many organizations are turning to ____, a set of integrated programs that manages a company's vital business operations for an entire multisite, global organization.
a. software suite
b. ERP
c. workgroup application software
d. productivity software

ANS: B PTS: 1 REF: 102

25. Literally thousands of programming languages have been developed, but only ____ are commonly used today.
a. a couple
b. one dozen
c. a few dozen
d. a hundred or so

ANS: C PTS: 1 REF: 103

COMPLETION

1. The _____ unit performs mathematical calculations and makes logical comparisons.

ANS: arithmetic/logic

PTS: 1 REF: 64

2. _____ is the component of the computer that rapidly provides data and instructions to the CPU.

ANS: main memory

PTS: 1 REF: 65

3. _____ are two rival manufacturers of computer processing chips.

ANS: Intel and AMD

PTS: 1 REF: 66

4. Key to the success of grid computing is a(n) _____ that acts as a grid leader and traffic monitor.

ANS: central server

PTS: 1 REF: 67

5. With _____ access, it is possible to go directly to and access the needed data.

ANS: direct

PTS: 1 REF: 68

6. The _____ is a special-purpose, high-speed network that provides high-speed connectivity among data storage devices and computers over a network.

ANS: storage area network (SAN)

PTS: 1 REF: 69

7. A Universal Serial Bus _____ drive is one example of a commonly used solid state secondary storage device.

ANS: flash

PTS: 1 REF: 70

8. A(n) _____ is a dot of color on a photo image or a point of light on a display screen.

ANS: pixel

PTS: 1 REF: 74

9. _____ is a popular format for compressing a sound sequence into a very small file while preserving the original level of sound quality when it is played.

ANS: MP3

PTS: 1 REF: 75

10. The digital media equivalent of a conventional printed book is called a(n) _____.

ANS: e-book

PTS: 1 REF: 76

11. _____ computers are the smallest and least expensive members of the laptop computer family.

ANS: Netbook

PTS: 1 REF: 78

12. _____ computers are portable, lightweight computers with no keyboard that allow you to carry them like a clipboard.

ANS: Tablet

PTS: 1 REF: 78

13. _____ computing is emerging as a new business strategy for computer manufacturers to distinguish themselves from the competition.

ANS: Green

PTS: 1 REF: 81

14. _____ describes the program functions to help the user operate the computer systems.

ANS: Documentation

PTS: 1 REF: 83

15. A(n) _____ allows applications to make use of the operating system.

ANS: application program interface

PTS: 1 REF: 86

16. _____ works by swapping programs or parts of programs between memory and one or more disk drives.

ANS: Virtual memory

PTS: 1 REF: 86

17. _____ allows more than one person to use a computer system at the same time.

ANS: Time sharing

PTS: 1 REF: 87

18. _____ is a system platform that uses one of the Windows operating systems combined with an Intel processor.

ANS: Wintel

PTS: 1 REF: 88

19. Google has developed its own Linux-based operating system called _____.

ANS: Chrome

PTS: 1 REF: 89

20. RIM introduced the _____ smartphone in 2002.

ANS: BlackBerry

PTS: 1 REF: 92

21. The publishing and motion picture industries use _____ management technologies to prevent copy protected books and movies from being unlawfully copied.

ANS: digital rights

PTS: 1 REF: 93

22. _____ is software that is mass produced by software vendors to address needs that are common across business, organizations, or individuals.

ANS: Off-the-shelf

PTS: 1 REF: 94

23. SaaS providers maintain software on their own servers and provide access to it over the _____.

ANS: Internet

PTS: 1 REF: 95

24. _____ refers to the use of computing resources, including software and data storage, on the Internet rather than on local computers.

ANS: Cloud computing

PTS: 1 REF: 95

25. _____ are sets of keywords, symbols, and rules for constructing statements that people can use to communicate instructions to a computer.

ANS: Programming languages

PTS: 1 REF: 103

ESSAY

1. Briefly discuss how the processing of data in a computer involves the interplay between its various hardware components.

   ANS:
   Each central processing unit consists of two primary elements: the arithmetic/logic unit and the control unit. The ALU performs mathematical calculations and makes logical comparisons. The control unit sequentially accesses program instructions, decodes them, and coordinates the flow of data in and out of the ALU, primary storage, and even secondary storage and various output devices.

   PTS: 1 REF: 64

2. What is grid computing and how does it work?

   ANS:
   Grid computing is the use of a collection of computers, often owned by many people or organizations, to work in a coordinated manner to solve a common problem. Key to the success of grid computing is a central server that acts as a grid leader and traffic monitor. This controlling computer divides the computing task into subtasks and assigns the work to computers on the grid that have (at least temporarily) surplus processing power. The central server also monitors the processing, and if a member of the grid fails to complete a subtask, it will restart or reassign the task. When all the tasks are completed, the controlling server combines the results and advances to the next task until the whole job is completed.

   PTS: 1 REF: 67

3. Identify three advantages of the use of solid state secondary storage devices over magnetic or optical media.

   ANS:
   Solid state storage devices store data in memory chips rather than magnetic or optical media. The memory chips require less power and provide faster data access. In addition, because SSDs have fewer moving parts, they are less fragile than hard disk drives and less likely to fail.

   PTS: 1 REF: 70

4. List the activities performed by the operating system.

   ANS:
   Perform common computer hardware functions
   Provide a user interface and input/output management
   Provide a degree of hardware independence
   Manage system memory
   Manage processing tasks
   Provide networking capability
   Control access to system resources
   Manage files

   PTS: 1 REF: 85

5. What are some of the disadvantages of using proprietary software?

   ANS:
   It can take a long time and significant resources to develop the required features. In house system developers may become hard pressed to provide the required level of ongoing support and maintenance because of pressure to move on to other projects. The features and performance of software that has yet to be developed presents potential risk.

   PTS: 1 REF: 94