Multiple Choice (100% total, 2% each)

1. Which is not the function of the operating system?
   (A) User interface management   (B) Program scheduling   (C) Efficient resource allocation
   (D) Document publishing   (E) Deadlock detection

2. ____ is a collection of programs that manage the resources of a computer and facilitate access to resources.
   (A) System software   (B) Loader   (C) Compiler   (D) Interpreter   (E) Assembler

3. Which is not the disadvantage of the assembly language?
   (A) It is difficult to create data.   (B) It is difficult to program.
   (C) It allows only numeric memory address.   (D) It uses mnemonics.
   (E) It is a kind of interpreter programming language.

4. The program that controls the overall operation of the computer is the _____.
   (A) Game   (B) Scheduler   (C) Controller   (D) Graphical user interface   (E) Operating system

5. C and C++ are examples of ____ languages.
   (A) Machine   (B) Assembly   (C) Nature-level programming   (D) High-level programming
   (E) Low-level programming

6. Convert the decimal value $(17.25)_{10}$ to its binary representation.
   (A) 11000.10   (B) 11001.11   (C) 10000.10   (D) 10000.01   (E) 10001.01

7. Convert the binary value $(1011.101)_2$ to its decimal representation.
   (A) 3.2   (B) 4.5   (C) 10.75   (D) 11.625   (E) 11.75

8. Convert the decimal value $(99)_{10}$ to its hexadecimal representation.
   (A) 63   (B) 64   (C) 65   (D) 66   (E) 67

9. Convert the hexadecimal value $(1A5)_{16}$ to its binary representation.
   (A) 010100110   (B) 110100101   (C) 110100111   (D) 110010100   (E) 010100111

10. Convert the hexadecimal value $(E8)_{16}$ to its decimal representation.
    (A) 22   (B) 24   (C) 232   (D) 242   (E) 422

11. In the ____ topology, all nodes connected to a single shared communication line.
    (A) Line   (B) Circle   (C) Ring   (D) Star   (E) Bus

12. Which is not the compiled programming language?
    (A) BASIC   (B) Java   (C) C   (D) C++   (E) Pascal

13. What device can connect two different LANs?
    (A) Modem   (B) Bridge   (C) Router   (D) Hub   (E) Connector

14. The protocol used by client and server to communicate via web service is _____.
    (A) SMTP   (B) HTTP   (C) TELENT   (D) FTP   (E) DNS

15. For a dial-up link, a ____ is used for a user to connect to ISP.
    (A) Decoder   (B) Encoder   (C) Demodulator   (D) Emulator   (E) Modem

16. Assume $y = 5$ and $x = 3$. Which of the following is true?
    (A) $x > 4$ and $y > 4$ (B) $x < 0$ or $y < 0$ (C) $y == 1$ and $x > 2$ (D) not $(x == 3$ and $y < 0)$
    (E) (not $(x > 1)$) or $y < 5$

17. To alert the computer that an input/output operation is done, a(n) ____ is transmitted to the processor.
   (A) Condition code   (B) Reset signal   (C) Broadcast   (D) Execution instruction
   (E) Interrupt signal

18. The operation "while (i > 0) print n" is a(n) ____ operation.
   (A) Output   (B) Hierarchal   (C) Conditional   (D) Sequential   (E) Iterative

19. The ____ operation complements the value of a Boolean expression.
   (A) NOR   (B) NOT   (C) NAND   (D) OR   (E) AND

20. The _____ operations alter the normal sequential flow of control.
   (A) Arithmetic   (B) Compare   (C) Branch   (D) Data transfer   (E) Logic

21. What is the size for 3 minutes song sampled 10,000 times per second with the bit depth of 16?
   (A) 36×10^5 Bytes   (B) 48×10^5 Bytes   (C) 58×10^5 Bytes   (D) 88×10^5 Bytes
   (E) 288×10^5 Bytes

22. The ____ is used to fetch, decode, and execute instructions.
   (A) Arithmetic unit   (B) Control unit   (C) Logic unit   (D) Memory   (E) I/O controllers

23. Which statement about registers is false?
   (A) The register is very fast memory location.   (B) The register is given an address and not a name.
   (C) The register serves some special purpose.   (D) The register is in the CPU.
   (E) Modern computers have dozens or hundreds of registers.

24. In a machine language instruction operation code takes 7 bits. What is the maximum number of distinct operation codes that can be recognized and executed by the processor on this machine?
   (A) 128   (B) 64   (C) 32   (D) 16   (E) 7

25. ____ will occur when the number of bits represented an unsigned number in a computer is not enough.
   (A) Underflow   (B) Overload   (C) Overflow   (D) Zeroflow   (E) Shutdown

26. As computers evolved, they _____.
   (A) Grew in size   (B) Become faster   (C) Consumed more electricity   (D) Became less reliable
   (E) Cost more

27. Some computers are able to main simultaneous connections to many users through a technique called _____.
   (A) Atomic operations   (B) Time warping   (C) Tunneling   (D) Parallel processing
   (E) Timesharing

28. An application program is _____.
   (A) A program that lets users create new applications   (B) A program that lets users apply for jobs
   (C) A program that lets someone use a computer for a particular purpose
   (D) A program that updates the operating system of a computer   (E) None of the above

29. To which of the following does justification generally apply?
   (A) Individual characters   (B) Words   (C) Paragraphs   (D) Fonts   (E) All of the above

30. Simulation software offers many advantages, including all of these except _____.
   (A) It can save money   (B) It can be much safer than "real-world" experience
   (C) It is generally more accurate than standard experimental research   (D) It can save time
   (E) It makes experimental replication easier

31. If a photographic image looks fine when displayed on a computer screen but appears jagged and rough when printed, the problem has to do with the image's _____.
(A) Bit depth (B) Dimensions (C) Vector (D) Raster (E) Resolution

32. Which of the following might professional artists, seeking an input device that can more accurately simulate a pen or paintbrush, choose to draw with?
(A) A mouse (B) A joystick (C) A trackball (D) A stylus on a pressure-sensitive pad
(E) An infrared system that tracks their eye movements

33. What must you do to use a computer to edit footage captured with a digital video camera?
(A) Install a video digitizer in the PC
(B) Import the video footage using a FireWire cable or the equivalent
(C) Digitize the video footage
(D) Store the video clips on a DVD
(E) All of the above

34. Even short digital movies can require storage space. What is the least expensive way to solve this problem?
(A) Use cheap hard disk drives made in China (B) Use nonlinear editing
(C) Use PostScript (D) Use data compression (E) Use miniature holographic storage cubes

35. Which of the following is a method that many legal online music stores use to attempt to prevent piracy?
(A) Sell music files with built-in digital rights-management technology
(B) Require customers to sign antipiracy pledges
(C) Perform background checks on potential customers
(D) Sell only MP3 files, because MP3 is widely known to be secure
(E) Compress files with lossless compression technology

36. ____ is a declarative language used on relational databases.
(A) PDQ (B) SQL (C) LES (D) PBL (E) ADA

37. Why do people use databases rather than paper-based filing systems for information-handling tasks?
(A) Databases make it easier to store large quantities of information.
(B) Databases make it easier to retrieve information quickly and flexibly.
(C) Databases make it easy to organize and reorganize information.
(D) Databases make it easy to print and distribute information in a variety of ways.
(E) All of the above.

38. Which of these is the correct hierarchy for a standard database?
(A) Database, field, record, table (B) Database, record, field, table
(C) Database, record, table, field (D) Database, table, field, record
(E) Database, table, record, field

39. Which of the following defines a relational database?
(A) A database that contains several related records
(B) A database that contains several related fields
(C) A database that has a relationship with other databases
(D) A database whose structure combines data in tables based on the relational model
(E) A database with more than 1000 records

40. Which of the following data compression method, the received data need not be an exact copy of the original message?
(A) MP3 (B) JPEG (C) MPEG (D) All of the Above (E) None of the above

41. What is the purpose of a database query?
    (A) To update information kept within a record
    (B) To retrieve information from all appropriate records
    (C) To count the number of records in the database
    (D) To convert a relational database into an object-oriented database
    (E) To delete the appropriate records

42. Data warehouses are similar in some ways to old-style centralized databases, but unlike those older systems, data warehouses _____.
    (A) Depend on middleware to produce reports
    (B) Give users more direct access to enterprise data
    (C) Are built on distributed database systems
    (D) Are powered by simple file-management software
    (E) All of the above

43. The Internet was originally a _____.
    (A) LAN at MIT
    (B) Code-cracking network during World War II by the U.S. Department of Defense
    (C) A network cooperatively created by several large hardware and software companies
    (D) Small experimental research network called ARPANET
    (E) Microsoft product that quickly became too big for the company to control

44. What do you call the XML-based file format for sharing data that allows syndication of Web content?
    (A) Anaconda   (B) Blog   (C) Gridlock   (D) RSS   (E) WebXML

45. What do you call a piece of code that attaches to an application program and secretly spreads when the application program is executed?
    (A) Virus   (B) Worm   (C) Trojan horse   (D) Spybot   (E) Antivirus

46. What do you call a person who accesses a computer system without authorization?
    (A) Hacker   (B) Cuckoo   (C) User   (D) Slammer   (E) System administrator

47. When or where can computer viruses spread rapidly?
    (A) In environments where disks and files are passed around freely
    (B) In documents as email attachments
    (C) When infected shareware and freeware programs are downloaded onto PCs
    (D) All of the above
    (E) None of the above

48. What do you call a program that translates a program's source code into machine language before the program is executed?
    (A) Compiler   (B) Debugger   (C) Interpreter   (D) Programmer   (E) Test editor

49. In object-oriented programming (OOP), _____.
    (A) Programmers can build programs from prefabricated objects
    (B) Objects can send and receive messages   (C) Objects can be easily reused in different programs
    (D) Objects have everything they need to operate   (E) All of the above are true

50. Which is not a process in systems development?
    (A) Outsourcing end users and systems analysts   (B) Investigating a situation
    (C) Acquiring resources to implement the solution   (D) Evaluating the success of the solution
    (E) Designing a system solution to improve the situation