Note: Attempt all 60 questions (choose one of the choices in each question).

Q1. To prevent signals from colliding on the bus, __________ prioritize(s) access to memory by I/O channels and processors.
   a. A register
   b. Interrupts
   c. The processor scheduler
   d. A controller

Q2. Data stored on __________ media (i.e., caches) vanishes when the computer is turned off, whereas __________ media (i.e., hard disks) preserve data when no power is present.
   a. Persistent, volatile
   b. Volatile, persistent
   c. Random-access, sequential-access
   d. Dynamic, static

Q3. In a distributed computing environment, clients are ________.
   a. User computers that request remote services
   b. Computers that perform requested services
   c. Often dedicated to one type of task, such as rendering graphics or managing databases
   d. None of the above

Q4. __________ improve system performance by temporarily storing data during transfers between devices or processes that operate at different speeds.
   a. Caches
   b. Controllers
   c. Buffers
   d. Registers

Q5. A compiler accepts __________ code, written in a high-level language, and returns executable __________ code that contains machine-language instructions. 
   a. source, object
   b. object, source
   c. assembly, object
   d. assembly, source
Q6. _______ is the process of integrating the various modules referenced by a program into a single executable unit.
   a. Parsing
   b. Loading
   c. Linking
   d. Compiling

Q7. A file is _______.
   a. Is a named collection of data
   b. Is manipulated as a unit by operations such as open, close, create or destroy
   c. Stored exclusively on persistent storage devices such as hard disks, CDs or DVDs
   d) a and b only

Q8. A(n) _______ periodically generates an interrupt that causes a processor to invoke the operating system.
   a. Clock generator
   b. Time-of-day clock
   c. Interval timer
   d. None of the above

Q9. The contents of information are stored in
   a. Memory data register
   b. Memory address register
   c. Memory arithmetic registers
   d. Memory access register

Q10. Programs are executed on the basis of a priority number in a
   a. Batch processing system
   b. Multiprogramming
   c. Time sharing
   d. None of these

Q11. Which of the following does not affect the resolution of a video display image?
   a. Bandwidth
   b. Raster scan range
   c. Vertical and horizontal lines of resolution
   d. Screen size

Q12. A(n) _______ allows programmers to perform complicated system tasks simply by calling predefined functions.
   a. System call
   b. Application programming interface (API)
   c. Web service
   d. None of the above

Q13. Within a processor, the _______ loads instructions into high-speed memory (i.e., instruction registers), the _______ interprets the instructions
and the ________ performs basic arithmetic and logical operations.
   a. Arithmetic and logic unit, instruction fetch unit, instruction decode unit
   b. Instruction fetch unit, arithmetic and logic unit, instruction decode unit
   c. Arithmetic and logic unit, instruction decode unit, instruction fetch unit
   d. Instruction fetch unit, instruction decode unit, arithmetic and logic unit

Q14. Which of the following statements about directories is false?
   a. Directories contain the names and locations of other files in the file system.
   b. Directories often store user data.
   c. Directions may contain the access times and modified times of files.
   d. Directories may contain a “type” field that specifies a description of a file’s purpose

Q15. Microsoft’s FAT file system uses a(n) ________ file allocation scheme.
   a. Contiguous
   b. Linked-list noncontiguous
   c. Tabular noncontiguous
   d. Indexed noncontiguous

Q16. The correct way to round off a floating number x to an integer value is
   a. y = (int)(x+0.5)
   b. y = int(x+0.5)
   c. y = (int)x+0.5
   d. y = (int)((int)x+0.5)

Q17. The process of assigning load addresses to the various parts of the program
and adjusting the code and data in the program to reflect the assigned
addresses is called ............
   a. Symbol resolution
   b. Parsing
   c. Assembly
   d. Relocation

Q18. Which type of computers uses the 8-bit code called EBCDIC?
   a. Minicomputers
   b. Microcomputers
   c. Mainframe computers
   d. Super computer

Q19. Registers, which are partially visible to users and used to hold conditional,
are known as
   a. PC
   b. Memory address registers
   c. General purpose register
   d. Flags
Q20. One of the main feature that distinguish microprocessors from microcomputers is
   a. Words are usually larger in microprocessors
   b. Words are shorter in microprocessors
   c. Microprocessor does not contain I/O devices
   d. Exactly the same as the machine cycle time

Q21. A factor in the selection of a source language is
   a. programmer skill
   b. language availability
   c. program compatibility with other software
   d. all of the above

Q22. “C” was primarily developed as a
   a. Systems Programming Language
   b. General Purpose Language
   c. Data Processing Language
   d. None of the above

Q23. Which of the following is FALSE in C?
   a. Keyword can be used as variable names
   b. Variable names can contain a digit
   c. Variable names do not contain a blank space
   d. Capital letters can be used in variable names

Q24. Which is the limitation of high level language?
   a. Lower efficiency
   b. Machine dependence
   c. machine level coding
   d. None of above

Q25. A compiler is a translating program which
   a. Translates instruction of a high level language into machine language
   b. Translates entire source program into machine language program
   c. It is not involved in program’s execution
   d. All of above

Q26. Frames from one LAN can be transmitted to another LAN via the device
   a. Router
   b. Bridge
   c. Repeater
   d. Modem

Q27. A computer that handles resource sharing and network management in a local area network. Select the best fit for answer:
   a. Network Server
   b. Virtual Private Network
   c. Network operating system
   d. OSI
Q28. Router operates in which layer of OSI Reference Model?
   a. Layer 1 (Physical Layer)
   b. Layer 3 (Network Layer)
   c. Layer 4 (Transport Layer)
   d. Layer 7 (Application Layer)

Q29. Which of the following statement about layers of the TCP/IP protocol stack is false?
   a. Each layer provides functionality for the layers above it.
   b. Layers ease the development, debugging and maintenance of network applications.
   c. Each layer can be implemented by following one or more protocols.
   d. Each layer can be used independently to perform network communication.

Q30. For large networks, ______ topology is used.
   a. Bus
   b. Star
   c. Ring
   d. Tree

Q31. An IP address is ________.
   a. a unique destination on the Internet.
   b. the location of a resource on the Internet.
   c. a component of a computer where datagrams are directed to be sent over a network.
   d. another name for a hub in a star network.

Q32. The problem of fragmentation arises in
   a. Static storage allocation
   b. Stack storage allocation
   c. Stack allocation with dynamic binding
   d. Heap allocation

Q33. In ______ OS, the response time is very critical.
   a. Multitasking
   b. Batch
   c. Online
   d. Real-time

Q34. An optimal scheduling algorithm in terms of minimizing the average waiting time of a given set of processes is _______.
   a. FCFS scheduling algorithm
   b. Round robin scheduling algorithm
   c. Shortest job - first scheduling algorithm
   d. None of the above

Q35 Virtual memory is ________.
   a. An extremely large main memory
   b. An extremely large secondary memory
c. An illusion of extremely large main memory
d. A type of memory used in super computers.

Q36. When a user runs a program, processes are created and inserted into the
------- list
a. running
b. ready
c. blocked
d. dispatched

Q37. A variable whose size is determined at compile time and cannot be changed at
run time is________.
a. Static variable.
b. Dynamic variable.
c. Not a variable.
d. Data variable

Q38. The complexity of linear search algorithm is
a. O(n)
b. O(log n)
c. O(n2)
d. O(n log n)

Q39. The Worst case occur in linear search algorithm when
a. Item is somewhere in the middle of the array
b. Item is not in the array at all
c. Item is the last element in the array
d. Item is the last element in the array or is not there at all

Q40. Linked lists are best suited
a. for relatively permanent collections of data
b. for the size of the structure and the data in the structure are constantly changing
c. for both of above situation
d. for none of above situation

Q41. Interrupts which are initiated by an I/O drive are
a. internal
b. external
c. software
d. all of above

Q42. Binary numbers can also be expressed in this same notation by
_____ representation:
a. Floating point
b. Binary point
c. Decimal point
d. All of these
Q43. The devices connected to a microprocessor can use the data bus:
   a. All the time
   b. At regular interval of time
   c. Only when it’s sending or receiving data
   d. When the microprocessor is reset

Q44. The access time of memory is ............... the time required for performing any single CPU operation.
   a. Longer than
   b. Shorter than
   c. Negligible than
   d. Same as

Q45. Which of the following registers is used to keep track of address of the memory location where the next instruction is located?
   a. Memory Address Register
   b. Memory Data Register
   c. Instruction Register
   d. Program Register

Q46. A complete microcomputer system consists of
   a. microprocessor
   b. memory
   c. peripheral equipment
   d. all of above

Q47. Which search method takes less memory?
   a. Depth-First search
   b. Breadth-First search
   c. Linear search
   d. Optimal search

Q48. What will backward chaining algorithm will return?
   a. Additional statements
   b. Substitutes matching the query
   c. Logical statement
   d. All of the mentioned

Q49. The area of AI that investigates methods of facilitating communication between people and computers is:
   a. Natural language processing
   b. Symbolic processing
   c. Decision support
   d. Robotics

Q50. Which of the following items should not be included in the software project management plan?
   a. The techniques and case tools to be used
   b. Detailed schedules, budgets and resource allocations
   c. The life cycle model to be used
   d. None of the above
Q51. Project risk factor is considered in
   a. Spiral Model
   b. Waterfall Model
   c. Prototyping Model
   d. Iterative enhancement Model

Q52. During software development which factor is most crucial ?
   a. People
   b. Process
   c. Product
   d. Project

Q53. Which best captures the nature of the quality paradigm?
   a. The Nature of Quality, A Process Perspective, Defect Elimination
   b. Process, Product, People, Problem
   c. Measurement, Quality Control, Validation
   d. Analysis, Testing, Design

Q54. Prototyping is appropriate for
   a. Data-oriented applications
   b. Applications which are highly interactive
   c. Development teams who lack domain experience
   d. All of the above.

Q55. A way to protect information being sent over a network, when long distance is involved, is
   a. Spying
   b. Putting up a firewall
   c. Passwording
   d. encrypting

Q56. In computer security, means that computer system assets can be modified only by authorized parities.
   a. Confidentiality
   b. Integrity
   c. Availability
   d. Authenticity

Q57. Public-key cryptography is symmetric in that ________.
   a. It decrypts messages using the same key it uses to encrypt
   b. Both the sender and the receiver use the same key
   c. It employs two inversely related keys
   d. Either host can create a key and both hosts can use it

Q58. Identify the criteria for designing database from the point of view of user
   a. No redundancy
   b. No inapplicable attributes
   c. Uniformity in naming & definitions of the data items
   d. All of the above
Q59. The relational model is based on the concept that data is organized and stored in two-dimensional tables called …………………
   a. Fields  
   b. Records  
   c. Relations  
   d. Keys

Q60. Identify the incorrect statement:
   a. The overall strategy drives the E-Commerce data warehousing strategy  
   b. Data warehousing in an E-Commerce environment should be done in classical manner  
   c. E-Commerce opens up an entirely new world of web server.  
   d. E-Commerce security threats can be grouped into three major categories