

## CS SET 1

**Q1.** Which component is responsible for converting digital signals to analog in a computer system?

- A) Multiplexer
- B) Modem
- C) Encoder
- D) Decoder

**Answer:** B) Modem

**Explanation:** A modem (modulator-demodulator) converts digital data to analog for transmission and vice versa.

---

**Q2.** Which logic gate gives a high output only when all inputs are high?

- A) OR
- B) NOR
- C) AND
- D) XOR

**Answer:** C) AND

**Explanation:** The AND gate outputs 1 only when all inputs are 1.

---

**Q3.** What is the correct size of an integer data type in C on a 32-bit compiler?

- A) 8 bits
- B) 16 bits
- C) 32 bits
- D) 64 bits

**Answer:** C) 32 bits

**Explanation:** On 32-bit compilers, the size of int is typically 4 bytes = 32 bits.

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**Q4.** Which of the following data structures uses LIFO (Last In, First Out) principle?

- A) Queue
- B) Stack
- C) Linked List
- D) Tree

**Answer:** B) Stack

**Explanation:** Stack stores elements such that the last inserted element is removed first.

---

**Q5.** Which algorithm is based on the divide-and-conquer approach?

- A) Bubble Sort
- B) Insertion Sort
- C) Merge Sort
- D) Linear Search

**Answer:** C) Merge Sort

**Explanation:** Merge Sort divides the array, sorts subarrays, and merges them efficiently.

---

**Q6.** Which of the following is a primary key characteristic in DBMS?

- A) It can have null values
- B) It uniquely identifies a record
- C) It can be duplicated
- D) It is used only for sorting

**Answer:** B) It uniquely identifies a record

**Explanation:** The primary key ensures unique identification and cannot have null or duplicate values.

---

**Q7.** Which of these is *not* a function of the operating system?

- A) Memory management
- B) File management
- C) Database creation
- D) Process scheduling

**Answer:** C) Database creation

**Explanation:** Database creation is handled by DBMS, not the OS.

---

**Q8.** In networking, which layer ensures reliable data delivery?

- A) Physical layer
- B) Network layer
- C) Transport layer

D) Session layer

**Answer:** C) Transport layer

**Explanation:** The transport layer (e.g., TCP) handles reliability, sequencing, and error correction.

---

**Q9.** The main goal of software engineering is:

- A) Reducing the cost of hardware
- B) Developing reliable and efficient software
- C) Eliminating human programmers
- D) Writing complex code

**Answer:** B) Developing reliable and efficient software

**Explanation:** Software engineering focuses on systematic, disciplined approaches to software development.

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**Q10.** The process of converting plain text into unreadable code is called:

- A) Decryption
- B) Encryption
- C) Authentication
- D) Validation

**Answer:** B) Encryption

**Explanation:** Encryption protects data by transforming it into an unreadable format.

---

**Q11.** HTML is used to:

- A) Design logic circuits
- B) Structure a web page
- C) Store data in databases
- D) Program in backend

**Answer:** B) Structure a web page

**Explanation:** HTML provides the structure and content of web pages.

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**Q12.** The binary equivalent of decimal number 25 is:

- A) 11000
- B) 11001

- C) 10101
- D) 10011

**Answer:** C) 11001

**Explanation:** 25 in decimal equals 11001 in binary.

---

**Q13.** Which type of semiconductor device acts as a current-controlled switch?

- A) Diode
- B) Transistor
- C) Resistor
- D) Capacitor

**Answer:** B) Transistor

**Explanation:** A transistor controls current flow using base current or gate voltage.

---

**Q14.** Which of these is an example of dynamic memory allocation in C?

- A) int x;
- B) malloc()
- C) sizeof()
- D) typedef

**Answer:** B) malloc()

**Explanation:** malloc() allocates memory at runtime dynamically.

---

**Q15.** What is the time complexity of binary search?

- A) O(n)
- B) O( $n^2$ )
- C) O(log n)
- D) O(1)

**Answer:** C) O(log n)

**Explanation:** Binary search repeatedly halves the search space, giving logarithmic complexity.

---

**Q16.** Which normal form eliminates transitive dependency?

- A) 1NF
- B) 2NF

- C) 3NF
- D) BCNF

**Answer:** C) 3NF

**Explanation:** Third Normal Form (3NF) removes transitive dependencies in database design.

---

**Q17.** In process scheduling, CPU utilization is maximized when:

- A) CPU is idle
- B) Throughput is low
- C) Context switching is frequent
- D) CPU is busy executing processes

**Answer:** D) CPU is busy executing processes

**Explanation:** Efficient CPU use means keeping it busy with useful tasks.

---

**Q18.** Which device connects multiple networks together?

- A) Switch
- B) Hub
- C) Router
- D) Repeater

**Answer:** C) Router

**Explanation:** Routers connect and route packets between different networks.

---

**Q19.** The SDLC model that allows iteration at every phase is:

- A) Waterfall
- B) Spiral
- C) Big Bang
- D) Prototype

**Answer:** B) Spiral

**Explanation:** The spiral model supports iterative development and risk analysis.

---

**Q20.** Which type of attack involves redirecting a website's traffic to a fake site?

- A) Phishing
- B) Spoofing
- C) DNS poisoning

D) Keylogging

**Answer:** C) DNS poisoning

**Explanation:** DNS poisoning modifies DNS records to redirect users to malicious sites.

---

**Q21.** CSS is used for:

- A) Structuring content
- B) Adding interactivity
- C) Styling web pages
- D) Managing databases

**Answer:** C) Styling web pages

**Explanation:** CSS defines how HTML elements are displayed on screen.

---

**Q22.** Which binary operation outputs 1 only when both inputs are different?

- A) AND
- B) OR
- C) XOR
- D) NOR

**Answer:** C) XOR

**Explanation:** XOR (exclusive OR) outputs 1 when inputs differ.

---

**Q23.** Which of the following storage devices has no moving parts?

- A) Hard disk
- B) CD-ROM
- C) SSD
- D) Floppy disk

**Answer:** C) SSD

**Explanation:** Solid State Drives (SSD) use flash memory and have no moving mechanical parts.

---

**Q24.** In Java, which keyword is used to prevent inheritance?

- A) static
- B) private
- C) final

D) protected

**Answer:** C) final

**Explanation:** A final class cannot be subclassed; a final method cannot be overridden.

---

**Q25.** Which traversal of a binary tree gives nodes in sorted order (for BST)?

A) Preorder

B) Inorder

C) Postorder

D) Level order

**Answer:** B) Inorder

**Explanation:** In BSTs, inorder traversal visits nodes in ascending sorted order.

**Q26.** Which of the following is a non-volatile memory?

A) RAM

B) ROM

C) Cache

D) Register

**Answer:** B) ROM

**Explanation:** ROM (Read Only Memory) retains data even when power is turned off.

---

**Q27.** The output of a NAND gate is 0 only when:

A) All inputs are 0

B) Any input is 1

C) All inputs are 1

D) Any input is 0

**Answer:** C) All inputs are 1

**Explanation:** NAND is the negation of AND — output is 0 only when all inputs are 1.

---

**Q28.** Which of the following statements about pointers in C is true?

A) Pointers cannot store addresses

B) Pointers hold values, not addresses

- C) A pointer stores the memory address of a variable
- D) A pointer can only point to integers

**Answer:** C) A pointer stores the memory address of a variable

**Explanation:** Pointers store addresses of variables or dynamically allocated memory.

---

**Q29.** Which data structure is ideal for implementing recursion?

- A) Queue
- B) Array
- C) Stack
- D) Tree

**Answer:** C) Stack

**Explanation:** Recursion uses the call stack to store function states and return addresses.

---

**Q30.** The best-case time complexity of Quick Sort is:

- A)  $O(n^2)$
- B)  $O(n \log n)$
- C)  $O(n)$
- D)  $O(\log n)$

**Answer:** B)  $O(n \log n)$

**Explanation:** In the best case, the partition divides the array evenly, giving  $O(n \log n)$  performance.

---

**Q31.** In DBMS, which key is formed by combining two or more attributes to uniquely identify a record?

- A) Candidate key
- B) Composite key
- C) Foreign key
- D) Alternate key

**Answer:** B) Composite key

**Explanation:** Composite keys consist of two or more columns that together uniquely identify a record.

---

**Q32.** Which of the following is not a type of operating system?

- A) Batch
- B) Real-time
- C) Network
- D) Binary

**Answer:** D) Binary

**Explanation:** Binary is a numbering system, not an OS type.

---

**Q33.** Which protocol is used to send emails?

- A) HTTP
- B) FTP
- C) SMTP
- D) POP3

**Answer:** C) SMTP

**Explanation:** Simple Mail Transfer Protocol (SMTP) handles outgoing email transmission.

---

**Q34.** Which software development model emphasizes customer feedback and adaptability?

- A) Waterfall
- B) Agile
- C) V-model
- D) Spiral

**Answer:** B) Agile

**Explanation:** Agile allows iterative development with continuous user feedback and flexibility.

---

**Q35.** A firewall is used to:

- A) Increase network bandwidth
- B) Filter incoming and outgoing traffic
- C) Manage IP addressing
- D) Enhance Wi-Fi speed

**Answer:** B) Filter incoming and outgoing traffic

**Explanation:** Firewalls monitor and control network packets to prevent unauthorized access.

---

**Q36.** The `<head>` tag in HTML contains:

- A) Page content
- B) Links to CSS or metadata
- C) Visible headings
- D) Images and videos

**Answer:** B) Links to CSS or metadata

**Explanation:** The `<head>` section contains meta information, links, and scripts.

---

**Q37.** The hexadecimal equivalent of binary number 101011 is:

- A) 2A
- B) 2B
- C) 1B
- D) 3C

**Answer:** B) 2B

**Explanation:**  $101011_2 = (0010\ 1011)_2 = 2B_{16}$ .

---

**Q38.** Which of the following is used to amplify weak electrical signals?

- A) Resistor
- B) Diode
- C) Transistor
- D) Inductor

**Answer:** C) Transistor

**Explanation:** Transistors act as amplifiers by controlling large output current with a small input signal.

---

**Q39.** Which function is used to find the length of a string in C?

- A) `length()`
- B) `strlen()`
- C) `sizeof()`
- D) `count()`

**Answer:** B) `strlen()`

**Explanation:** The `strlen()` function returns the number of characters in a string excluding '\0'.

---

**Q40.** Which data structure is used to implement BFS (Breadth First Search)?

- A) Stack
- B) Queue
- C) Tree
- D) Graph

**Answer:** B) Queue

**Explanation:** BFS explores nodes level by level using a queue.

---

**Q41.** Which of the following best describes Big-O notation?

- A) Measures algorithm efficiency
- B) Describes program syntax
- C) Indicates data type
- D) Defines compiler speed

**Answer:** A) Measures algorithm efficiency

**Explanation:** Big-O notation expresses the upper bound of time or space complexity.

---

**Q42.** In relational databases, foreign keys are used to:

- A) Link tables together
- B) Store binary data
- C) Encrypt data
- D) Sort tuples

**Answer:** A) Link tables together

**Explanation:** Foreign keys establish relationships between tables via referencing primary keys.

---

**Q43.** A process in the ready queue is waiting for:

- A) I/O operation
- B) CPU time
- C) Memory allocation
- D) Completion

**Answer:** B) CPU time

**Explanation:** The ready queue holds processes ready to execute and waiting for CPU allocation.

---

**Q44.** Which device operates at the data link layer of the OSI model?

- A) Router
- B) Switch
- C) Hub
- D) Gateway

**Answer:** B) Switch

**Explanation:** Switches work at the data link layer (Layer 2) to forward frames based on MAC addresses.

---

**Q45.** Which testing ensures that new code changes do not break existing functionality?

- A) Unit testing
- B) Regression testing
- C) Alpha testing
- D) Stress testing

**Answer:** B) Regression testing

**Explanation:** Regression testing checks that software modifications haven't affected existing features.

---

**Q46.** The strongest form of password protection uses:

- A) Plain text
- B) Hashing
- C) Reversible encryption
- D) Base64 encoding

**Answer:** B) Hashing

**Explanation:** Hashing converts passwords into fixed-length codes that are irreversible, enhancing security.

---

**Q47.** Which HTML tag is used to insert a line break?

- A) <hr>
- B) <p>

- C) <br>
- D) <div>

**Answer:** C) <br>

**Explanation:** The <br> tag inserts a line break in the text.

---

**Q48.** The two's complement of binary 0110 is:

- A) 1001
- B) 1010
- C) 1110
- D) 1101

**Answer:** B) 1010

**Explanation:** Invert bits (1001) and add 1 → 1010 is the two's complement of 0110.

---

**Q49.** In semiconductors, the majority carriers in an N-type material are:

- A) Holes
- B) Electrons
- C) Neutrons
- D) Protons

**Answer:** B) Electrons

**Explanation:** N-type semiconductors have extra electrons as majority charge carriers.

---

**Q50.** Which operator in C++ is used to allocate memory dynamically?

- A) malloc
- B) new
- C) create
- D) alloc

**Answer:** B) new

**Explanation:** The new operator allocates memory at runtime in C++.

**Q51.** Which of the following is an example of volatile memory?

- A) ROM
- B) Hard Disk

- C) RAM
- D) Flash Drive

**Answer:** C) RAM

**Explanation:** RAM loses its stored data when power is turned off, making it volatile memory.

---

**Q52.** The output of an XOR gate with inputs A=1 and B=1 will be:

- A) 0
- B) 1
- C) Undefined
- D) Same as A

**Answer:** A) 0

**Explanation:** XOR outputs 1 only when inputs differ; here both are same → output = 0.

---

**Q53.** In C programming, which keyword is used to exit from a loop immediately?

- A) continue
- B) break
- C) stop
- D) exit

**Answer:** B) break

**Explanation:** The break statement terminates the current loop or switch immediately.

---

**Q54.** Which data structure is ideal for implementing undo operations?

- A) Stack
- B) Queue
- C) Linked List
- D) Tree

**Answer:** A) Stack

**Explanation:** Undo operations use LIFO structure; last action is reversed first.

---

**Q55.** Which sorting algorithm is the most efficient for large datasets on average?

- A) Bubble Sort
- B) Quick Sort
- C) Selection Sort
- D) Insertion Sort

**Answer:** B) Quick Sort

**Explanation:** Quick Sort has an average time complexity of  $O(n \log n)$  and works efficiently on large data.

---

**Q56.** Which SQL command is used to remove all records from a table without removing its structure?

- A) DROP
- B) DELETE
- C) ERASE
- D) TRUNCATE

**Answer:** D) TRUNCATE

**Explanation:** TRUNCATE removes all rows but keeps the table definition intact.

---

**Q57.** The part of an OS that manages hardware resources is called:

- A) GUI
- B) Kernel
- C) Shell
- D) Driver

**Answer:** B) Kernel

**Explanation:** The kernel is the core of the operating system that interacts directly with hardware.

---

**Q58.** Which of the following IP addresses is reserved for loopback testing?

- A) 127.0.0.1
- B) 192.168.1.1
- C) 10.0.0.1
- D) 255.255.255.255

**Answer:** A) 127.0.0.1

**Explanation:** 127.0.0.1 is the standard IPv4 loopback address for testing local connectivity.

---

**Q59.** The process of verifying that software meets the user's requirements is called:

- A) Validation
- B) Verification
- C) Debugging
- D) Maintenance

**Answer:** A) Validation

**Explanation:** Validation checks "Are we building the right product?" ensuring it meets user needs.

---

**Q60.** Which cybersecurity concept ensures that only authorized users can access data?

- A) Integrity
- B) Availability
- C) Confidentiality
- D) Authenticity

**Answer:** C) Confidentiality

**Explanation:** Confidentiality ensures data is accessible only to those with permission.

---

**Q61.** In HTML, hyperlinks are created using:

- A) <img>
- B) <a>
- C) <link>
- D) <href>

**Answer:** B) <a>

**Explanation:** The <a> tag defines hyperlinks using the href attribute.

---

**Q62.** The binary number 1111 equals which hexadecimal value?

- A) F
- B) E

- C) 15
- D) D

**Answer:** A) F

**Explanation:**  $1111_2 = F_{16}$  in hexadecimal notation.

---

**Q63.** The device that converts AC to DC is called:

- A) Transformer
- B) Rectifier
- C) Amplifier
- D) Oscillator

**Answer:** B) Rectifier

**Explanation:** A rectifier converts alternating current (AC) to direct current (DC).

---

**Q64.** In C, what is the output of `printf("%d", 5/2);` ?

- A) 2.5
- B) 2
- C) 3
- D) Error

**Answer:** B) 2

**Explanation:** Integer division truncates the decimal part;  $5/2 = 2$ .

---

**Q65.** Which data structure provides the fastest data retrieval?

- A) Array
- B) Linked List
- C) Hash Table
- D) Stack

**Answer:** C) Hash Table

**Explanation:** Hash tables allow near-constant time lookups using hash keys.

---

**Q66.** Which algorithm finds the shortest path in a graph?

- A) Dijkstra's Algorithm
- B) Prim's Algorithm
- C) Kruskal's Algorithm
- D) Floyd's Algorithm

**Answer:** A) Dijkstra's Algorithm

**Explanation:** Dijkstra's algorithm determines the shortest path from a source to all vertices.

---

**Q67.** Which command in SQL is used to combine rows from two or more tables?

- A) UNION
- B) INTERSECT
- C) COMBINE
- D) SELECT \*

**Answer:** A) UNION

**Explanation:** UNION merges rows from multiple SELECT queries while removing duplicates.

---

**Q68.** Which scheduling algorithm gives the minimum average waiting time?

- A) FCFS
- B) SJF
- C) RR
- D) Priority

**Answer:** B) SJF

**Explanation:** Shortest Job First minimizes average waiting time by executing shorter processes first.

---

**Q69.** In networking, MAC address operates at which layer?

- A) Network
- B) Data Link
- C) Transport
- D) Application

**Answer:** B) Data Link

**Explanation:** MAC (Media Access Control) addresses identify devices at the data link layer.

---

**Q70.** The main purpose of requirements analysis in software engineering is to:

- A) Test software

- B) Define what the system should do
- C) Write code
- D) Debug the program

**Answer:** B) Define what the system should do

**Explanation:** Requirement analysis determines system functionality based on user needs.

---

**Q71.** The most common form of social engineering attack is:

- A) Spoofing
- B) Phishing
- C) Sniffing
- D) Eavesdropping

**Answer:** B) Phishing

**Explanation:** Phishing deceives users into revealing confidential information via fake emails or sites.

---

**Q72.** In CSS, which symbol is used to define an ID selector?

- A) . (dot)
- B) # (hash)
- C) \* (asterisk)
- D) @ (at)

**Answer:** B) # (hash)

**Explanation:** The hash symbol # is used to select elements by ID in CSS.

---

**Q73.** Which logic gate is considered a “universal gate”?

- A) XOR
- B) NAND
- C) NOR
- D) Both B and C

**Answer:** D) Both B and C

**Explanation:** NAND and NOR gates can be used to build any other gate, making them universal.

---

**Q74.** The capacitance of a capacitor depends on:

- A) Length of conductor only
- B) Area of plates and distance between them
- C) Type of resistor connected
- D) Type of transistor used

**Answer:** B) Area of plates and distance between them

**Explanation:** Capacitance increases with plate area and decreases with greater separation.

---

**Q75.** Which keyword in Java is used to handle exceptions?

- A) throw
- B) handle
- C) trap
- D) final

**Answer:** A) throw

**Explanation:** The throw keyword is used to explicitly throw an exception in Java.

**Q76.** Which memory stores data temporarily during computer operations?

- A) Hard Disk
- B) ROM
- C) RAM
- D) Flash Memory

**Answer:** C) RAM

**Explanation:** RAM temporarily holds data and instructions for the CPU during execution.

---

**Q77.** If A = 0 and B = 1, what is the output of an OR gate?

- A) 0
- B) 1
- C) 2
- D) Undefined

**Answer:** B) 1

**Explanation:** OR gate outputs 1 when any input is 1.

---

**Q78.** Which keyword is used to define a constant in C?

- A) var
- B) const
- C) define
- D) static

**Answer:** C) define

**Explanation:** #define preprocessor directive defines symbolic constants in C.

---

**Q79.** Which data structure allows insertion and deletion only from one end?

- A) Queue
- B) Stack
- C) Linked List
- D) Deque

**Answer:** B) Stack

**Explanation:** Stack uses LIFO principle — operations occur only at one end (top).

---

**Q80.** The time complexity of linear search is:

- A) O(1)
- B) O(n)
- C) O(log n)
- D) O(n log n)

**Answer:** B) O(n)

**Explanation:** Linear search compares each element sequentially → time grows linearly.

---

**Q81.** Which SQL command is used to change existing data in a table?

- A) ALTER
- B) MODIFY
- C) UPDATE
- D) RENAME

**Answer:** C) UPDATE

**Explanation:** UPDATE modifies existing records based on a specified condition.

---

**Q82.** Which of the following is not an OS function?

- A) Process management
- B) Memory management
- C) Compiling code
- D) File management

**Answer:** C) Compiling code

**Explanation:** Code compilation is handled by compilers, not operating systems.

---

**Q83.** Which protocol provides reliable communication between devices?

- A) UDP
- B) TCP
- C) IP
- D) ARP

**Answer:** B) TCP

**Explanation:** TCP ensures error-free, ordered data transmission between devices.

---

**Q84.** The phase in SDLC where testing is done is called:

- A) Design phase
- B) Implementation phase
- C) Verification phase
- D) Deployment phase

**Answer:** C) Verification phase

**Explanation:** Verification and validation involve software testing before release.

---

**Q85.** Which cybersecurity attack encrypts user data and demands payment?

- A) Phishing
- B) Ransomware
- C) Spoofing
- D) Sniffing

**Answer:** B) Ransomware

**Explanation:** Ransomware encrypts files and demands ransom for decryption keys.

---

**Q86.** The HTML tag <img> requires which attribute to display an image?

- A) src
- B) link
- C) href
- D) data

**Answer:** A) src

**Explanation:** The src attribute specifies the path to the image file.

---

**Q87.** The decimal number 50 is equal to what in binary?

- A) 101010
- B) 110010
- C) 100110
- D) 111010

**Answer:** A) 110010

**Explanation:**  $50_{10} = 110010_2$  in binary form.

---

**Q88.** The device that produces oscillations without input signal is:

- A) Rectifier
- B) Oscillator
- C) Amplifier
- D) Filter

**Answer:** B) Oscillator

**Explanation:** Oscillators generate periodic waveforms without external input.

---

**Q89.** In C, which operator is used to access the value at an address stored in a pointer?

- A) \*
- B) &
- C) ->
- D) .

**Answer:** A) \*

**Explanation:** The \* operator dereferences a pointer to access the value stored at that address.

---

**Q90.** Which traversal method visits root, then left, then right subtree in a binary tree?

- A) Inorder
- B) Preorder
- C) Postorder
- D) Level order

**Answer:** B) Preorder

**Explanation:** Preorder traversal order is: Root → Left → Right.

---

**Q91.** Which algorithm is used to find minimum spanning tree?

- A) Dijkstra
- B) Prim
- C) BFS
- D) DFS

**Answer:** B) Prim

**Explanation:** Prim's algorithm builds the minimum spanning tree by adding the lowest-cost edges.

---

**Q92.** In DBMS, which constraint ensures that no two rows have the same value in a specific column?

- A) FOREIGN KEY
- B) UNIQUE
- C) CHECK
- D) DEFAULT

**Answer:** B) UNIQUE

**Explanation:** The UNIQUE constraint prevents duplicate values in a column.

---

**Q93.** Which scheduling algorithm assigns a fixed time to each process in rotation?

- A) SJF
- B) FCFS
- C) Round Robin
- D) Priority

**Answer:** C) Round Robin

**Explanation:** Round Robin gives equal time quantum to all processes cyclically.

---

**Q94.** A switch operates using which addressing method?

- A) IP address
- B) Port address
- C) MAC address
- D) Domain name

**Answer:** C) MAC address

**Explanation:** Switches forward frames based on MAC addresses at the data link layer.

---

**Q95.** The process of locating and correcting errors in a program is called:

- A) Testing
- B) Debugging
- C) Validation
- D) Coding

**Answer:** B) Debugging

**Explanation:** Debugging identifies and removes logical or runtime errors in code.

---

**Q96.** Which of these ensures data integrity during transmission?

- A) Parity check
- B) Routing
- C) Switching
- D) Bandwidth

**Answer:** A) Parity check

**Explanation:** Parity bits detect and sometimes correct errors in transmitted data.

---

**Q97.** Which HTML element is used to define a table row?

- A) <tr>
- B) <td>
- C) <th>

D) <row>

**Answer:** A) <tr>

**Explanation:** The <tr> tag defines a row within an HTML table.

---

**Q98.** The Boolean expression for NOR gate is:

A)  $(A + B)'$

B)  $(AB)'$

C)  $A' + B'$

D)  $A'B$

**Answer:** A)  $(A + B)'$

**Explanation:** NOR gate gives the complement of the OR operation.

---

**Q99.** The reverse-bias region of a PN junction diode has:

A) High resistance

B) Low resistance

C) Zero resistance

D) Constant current

**Answer:** A) High resistance

**Explanation:** In reverse bias, the depletion layer widens, resulting in very high resistance.

---

**Q100.** Which of the following is the client-side scripting language?

A) PHP

B) Python

C) JavaScript

D) SQL

**Answer:** C) JavaScript

**Explanation:** JavaScript executes in the user's browser, making it a client-side scripting language.