✓	15 Basic Level Questions
1.	Which of the following is a volatile memory?
	A. ROM
	B. Hard Disk
	C. RAM 🗸
	D. DVD
2.	What is the full form of OOP?
	A. Object Overloading Programming
	B. Object-Oriented Programming
	C. Optional-Oriented Programming
	D. Object-Oriented Process
3.	Which data structure uses LIFO?
	A. Queue
	B. Array
	C. Stack
	D. Linked List
1.	What does HTTP stand for?
	A. HyperText Transfer Protocol
	B. High Text Transfer Protocol
	C. Hyper Terminal Transfer Program
	D. Host Transfer Type Protocol
2.	Which protocol is used to send emails?
	A. SMTP 🗸
	B. FTP
	C. SNMP
	D. HTTP
3.	Which one is not a high-level language?
	A. Python
	B. C++
	C. Assembly
4	D. Java
4.	Which of the following is not an Operating System?
	A. Linux B. Windows
	C. Oracle D. macOS
5	Which of the following is a web browser?
5.	A. Yahoo
	B. Google
	C. Chrome
	D. Windows
6.	What is the primary key?
	- v v

A. A unique identifier for each record B. A type of foreign key
C. A default SQL keyword
D. A relational operator

	Which one is used to protect your system from unauthorized access?
	A. Antivirus
	B. Firewall
	C. Compiler
	D. Debugger
8.	Which is not a primitive data type in Java?
	A. int
	B. char
	C. boolean
	D. String
9.	Which component manages the execution of processes in an OS?
	A. Kernel
	B. Shell
	C. BIOS
	D. Compiler
10.	Which topology connects all devices to a single hub?
	A. Star
	B. Mesh
	C. Bus
	D. Ring
11.	Which database language is used to query data?
	A. HTML
	B. DDL
	C. DML
	D. SQL 🗸
	-·~ (-
12.	Which technology enables real-time web updates without refreshing?
12.	Which technology enables real-time web updates without refreshing?
12.	A. AJAX 🗸
12.	A. AJAX B. FTP
12.	A. AJAX B. FTP C. XML
12.	A. AJAX B. FTP
12.	A. AJAX B. FTP C. XML
12.	A. AJAX B. FTP C. XML
	A. AJAX B. FTP C. XML D. DHCP
	A. AJAX B. FTP C. XML
	A. AJAX B. FTP C. XML D. DHCP 15 Medium Level Questions
	A. AJAX B. FTP C. XML D. DHCP 15 Medium Level Questions Which sorting algorithm has the best average-case performance?
	A. AJAX B. FTP C. XML D. DHCP 15 Medium Level Questions Which sorting algorithm has the best average-case performance? A. Bubble Sort
	A. AJAX B. FTP C. XML D. DHCP 15 Medium Level Questions Which sorting algorithm has the best average-case performance? A. Bubble Sort B. Selection Sort
	A. AJAX B. FTP C. XML D. DHCP 15 Medium Level Questions Which sorting algorithm has the best average-case performance? A. Bubble Sort B. Selection Sort C. Merge Sort
16.	A. AJAX B. FTP C. XML D. DHCP 15 Medium Level Questions Which sorting algorithm has the best average-case performance? A. Bubble Sort B. Selection Sort C. Merge Sort D. Insertion Sort
16.	A. AJAX B. FTP C. XML D. DHCP 15 Medium Level Questions Which sorting algorithm has the best average-case performance? A. Bubble Sort B. Selection Sort C. Merge Sort D. Insertion Sort Which SQL clause is used for grouping rows with the same values?
16.	A. AJAX B. FTP C. XML D. DHCP 15 Medium Level Questions Which sorting algorithm has the best average-case performance? A. Bubble Sort B. Selection Sort C. Merge Sort D. Insertion Sort Which SQL clause is used for grouping rows with the same values? A. GROUP BY
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B. PUT

19	D. CONNECT Which feature of OOP allows same method name with different
1).	implementations?
	A. Abstraction
	B. Inheritance
	C. Polymorphism 🗸
	D. Encapsulation
20.	What type of memory is cache memory?
	A. Primary
	B. Secondary
	C. Static RAM
	D. Dynamic RAM
21.	Which algorithm is used for shortest path in a weighted graph
	A. BFS
	B. DFS
	C. Dijkstra 🗸
	D. Kruskal
22.	Which RAID level offers mirroring?
	A. RAID 0
	B. RAID 1
	C. RAID 5
22	D. RAID 10
23.	Which HTML element is used for JavaScript code?
	A. <script></td></tr><tr><td></td><td>B. <style></td></tr><tr><td></td><td>C. <js></td></tr><tr><td>24</td><td>D. <code></td></tr><tr><td><i>2</i>4.</td><td>Which of the following is not a network layer device? A. Switch</td></tr><tr><td></td><td></td></tr><tr><td></td><td>B. Router ✓ C. Bridge</td></tr><tr><td></td><td>D. Repeater</td></tr><tr><td>25</td><td>What is the function of the Program Counter?</td></tr><tr><td>25.</td><td>A. Holds instructions</td></tr><tr><td></td><td>B. Stores the stack</td></tr><tr><td></td><td>C. Points to the next instruction</td></tr><tr><td></td><td>D. Acts as a register for data</td></tr><tr><td>26.</td><td>What is a deadlock in OS?</td></tr><tr><td></td><td>A. Process in infinite loop</td></tr><tr><td></td><td>B. Memory corruption</td></tr><tr><td></td><td>C. Multiple processes waiting for each other indefinitely</td></tr><tr><td></td><td>D. CPU overload</td></tr><tr><td>27.</td><td>In software engineering, what does SDLC stand for?</td></tr><tr><td></td><td>A. Software Design Level Code</td></tr><tr><td></td><td>B. Software Development Life Cycle</td></tr><tr><td></td><td>C. Software Debugging Level Code</td></tr><tr><td></td><td>D. System Data Link Control</td></tr></tbody></table></script>

	A. AES
	B. DES
	C. RSA
20	D. SHA-256
29.	Which of the following is an in-place sorting algorithm?
	A. Merge Sort
	B. Quick Sort
	C. Counting Sort D. Radix Sort
20	
<i>5</i> 0.	Which type of transmission sends data one bit at a time?
	A. Serial
	B. Parallel
	C. Hybrid D. Modulated
	15 Complex Level Questions
	•
31.	What does ACID stand for in database systems?
	A. Access, Consistency, Isolation, Durability
	B. Atomicity, Consistency, Isolation, Durability
	C. Access, Control, Integrity, Data
	e i
22	D. Association, Consistency, Integrity, Duration
32.	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS?
32.	 D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables
32.	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables B. Restrict access
32.	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables ■ B. Restrict access C. Duplicate primary key
	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables B. Restrict access C. Duplicate primary key D. Store passwords securely
	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables B. Restrict access C. Duplicate primary key D. Store passwords securely Which data structure is used in recursion?
	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables B. Restrict access C. Duplicate primary key D. Store passwords securely Which data structure is used in recursion? A. Queue
	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables B. Restrict access C. Duplicate primary key D. Store passwords securely Which data structure is used in recursion? A. Queue B. Stack
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33.	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables B. Restrict access C. Duplicate primary key D. Store passwords securely Which data structure is used in recursion? A. Queue B. Stack C. Array D. Linked List Which layer in OSI model handles encryption? A. Session B. Presentation ✓
33.	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables B. Restrict access C. Duplicate primary key D. Store passwords securely Which data structure is used in recursion? A. Queue B. Stack C. Array D. Linked List Which layer in OSI model handles encryption? A. Session B. Presentation C. Application
33.34.	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables B. Restrict access C. Duplicate primary key D. Store passwords securely Which data structure is used in recursion? A. Queue B. Stack C. Array D. Linked List Which layer in OSI model handles encryption? A. Session B. Presentation C. Application D. Transport
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33.34.	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables B. Restrict access C. Duplicate primary key D. Store passwords securely Which data structure is used in recursion? A. Queue B. Stack C. Array D. Linked List Which layer in OSI model handles encryption? A. Session B. Presentation C. Application D. Transport In OOP, which of the following supports multiple inheritance A. Java class B. Java interface ✓
33.34.	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables B. Restrict access C. Duplicate primary key D. Store passwords securely Which data structure is used in recursion? A. Queue B. Stack C. Array D. Linked List Which layer in OSI model handles encryption? A. Session B. Presentation C. Application D. Transport In OOP, which of the following supports multiple inheritance A. Java class B. Java interface C. C# class
33.34.35.	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables B. Restrict access C. Duplicate primary key D. Store passwords securely Which data structure is used in recursion? A. Queue B. Stack C. Array D. Linked List Which layer in OSI model handles encryption? A. Session B. Presentation C. Application D. Transport In OOP, which of the following supports multiple inheritance A. Java class B. Java interface C. C# class D. C++ class
33.34.35.	D. Association, Consistency, Integrity, Duration What is the purpose of foreign key in RDBMS? A. Establish relationship between tables B. Restrict access C. Duplicate primary key D. Store passwords securely Which data structure is used in recursion? A. Queue B. Stack C. Array D. Linked List Which layer in OSI model handles encryption? A. Session B. Presentation C. Application D. Transport In OOP, which of the following supports multiple inheritance A. Java class B. Java interface C. C# class

	C. Selection Sort
	D. Linear Search
37.	Which normalization form removes transitive dependency?
	A. 1NF
	B. 2NF
	C. 3NF
	D. BCNF
38.	What is port scanning in cybersecurity?
	A. Transferring data over network
	B. Monitoring internet speed
	C. Probing open ports for vulnerabilities
	D. Installing firewall software
39.	Which HTML5 API allows offline storage?
	A. WebSQL
	B. LocalStorage
	C. Cookies
	D. SessionStorage
40.	What is the size of IPv6 address?
	A. 32-bit
	B. 64-bit
	C. 128-bit 🗸
	D. 256-bit
41.	Which of the following is NOT a hashing algorithm?
	A. MD5
	B. SHA-256
	C. RSA 🗸
	D. Whirlpool
42.	What does a compiler do?
	A. Executes code
	B. Translates high-level code to machine code
	C. Edits code
	D. Debugs logic errors
43.	Which component fetches, decodes, and executes instructions?
	A. Memory
	B. Cache
	C. ALU
	D. CPU 🗸
44	What is a heuristic in algorithms?
	A. Exact solution
	B. Approximate solution for faster processing
	C. Random guess
	D. Memory management technique
45	Which technique is used in agile software development?
rJ.	A. Waterfall
	B. V-Model
	C. Scrum
	D. Spiral

✓ 15 Hard Level Questions

46. Which protocol secures web communication using encryption?
A. HTTP
B. FTP
C. SSL/TLS 🗸
D. SNMP
47. What is the purpose of DNS?
A. Encrypts data
B. Assigns MAC address
C. Resolves domain names to IP
D. Stores browsing history
48. Which technique is used to prevent SQL injection?
A. Concatenation
B. Prepared Statements
C. Inline queries
D. Joins
49. What is pipelining in computer architecture?
A. Cache storage technique
B. Simultaneous execution of multiple instructions
C. Input/output management
D. Memory fragmentation
50. What is pointer arithmetic used for?
A. Managing databases
B. Memory navigation
C. Web development
D. Security protocols
51. Which OS scheduling algorithm is starvation-prone?
A. Round Robin
B. First Come First Serve
C. Shortest Job Next 🗸
D. Priority (Preemptive)
52. Which cryptographic method is irreversible?
A. Hashing ✓
B. Symmetric encryption
C. Asymmetric encryption
D. Compression
53. What is the worst-case time complexity of Quick Sort?
A. $O(n \log n)$
B. $O(n^2)$
C. O(n)
D. O(log n)
54. Which layer ensures reliable transmission?
A. Network
B. Application
C. Transport
D. Session

55. What is containerization in DevOps?A. Virtual machinesB. Platform testingC. Packaging software with dependencies

56. Which Java feature allows memory management automatically?

A. Constructor

D. Building APIs

- B. Garbage Collection
- C. Polymorphism
- D. Exception Handling

57. What is ARP used for?

- A. IP to MAC mapping
- B. MAC to IP mapping
- C. Port management
- D. Routing tables

58. What's the purpose of blockchain in cybersecurity?

- A. Antivirus replacement
- B. Immutable transaction recording
- C. Key management
- D. Password storage

59. Which sorting algorithm is best for linked lists?

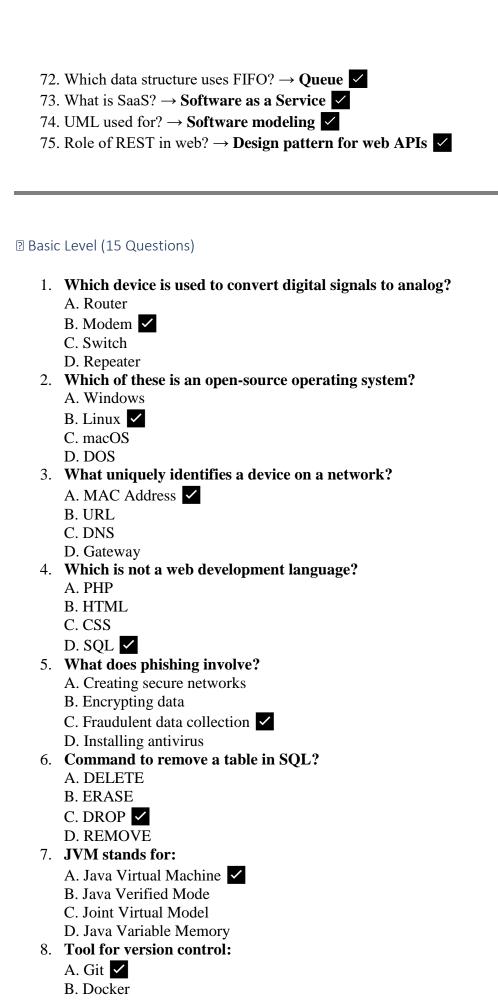
- A. Bubble Sort
- B. Insertion Sort
- C. Merge Sort
- D. Quick Sort

60. What is the role of NIC in networking?

- A. Network Interface Card enables device connectivity to a network
- B. Cable tester
- C. Port scanner
- D. IP router

✓ 15 Mixed Level Questions

- 61. OSI layer that handles routing? → **Network** ✓
- 62. Function of DHCP? → **Assigns IP dynamically**
- 63. Function of abstraction in OOP? \rightarrow **Hide implementation**
- 64. Key feature of blockchain? → **Immutability** ✓
- 65. Threat model in cybersecurity? → **Defines potential attacks**
- 66. TCP vs UDP? \rightarrow **TCP is reliable**
- 67. Function of JOIN in SQL? \rightarrow Combines data from tables
- 68. Advantage of linked list over array? → **Dynamic size**
- 69. Use of CSS in web? \rightarrow Styling
- 70. CPU cache function? → Stores frequently accessed data
- 71. DNS resolves? \rightarrow **Domain to IP**



	D. HTML
9.	Which is not an SDLC model?
	A. Waterfall
	B. Agile
	C. V-Model
	D. DevOps 🗸
10	. Register holding address of next instruction:
	A. MAR
	B. PC 🗸
	C. MDR
	D. IR
11	. Binary search time complexity:
	A. O(n)
	B. O(log n)
	$C. O(n \log n)$
	D. O(1)
12	. Interpreted language among the following:
	A. C
	B. C++
	C. Java
	D. Python 🗸
13	. Idempotent HTTP method:
	A. GET 🗸
	B. POST
	C. CONNECT
	D. PATCH
14	. Firewall works at which OSI layer?
	A. Physical
	B. Data Link
	C. Network
	D. Session
15	. NoSQL database:
	A. MySQL
	B. PostgreSQL
	C. MongoDB 🗸
	-

Medium Level (15 Questions)

C. Java

16. Normalization avoids:

- A. Data retrieval
- B. Data redundancy
- C. Indexing
- D. Deadlock

17. Encapsulation means:

A. Hiding data

B. Inheritance
C. Overloading
D. Compilation
18. Which one is stateless?
A. FTP
B. HTTP
C. SMTP
D. SNMP
19. Which one is NOT a type of Operating System?
A. Real-Time
B. Time Sharing C. Multi-threaded
D. Structured
20. Inheritance promotes:
A. Code duplication
B. Code reusability
C. Code hiding
D. Compilation
21. Which sorting algorithm is fastest in average case?
A. Bubble
B. Selection
C. Quick Sort
D. Insertion
22. Which of the following is a routing protocol?
A. SMTP
B. OSPF
C. DHCP
D. ARP
23. Class in Java is: A. A function
B. An object
• —
C. A blueprint D. A variable
24. Deadlock can occur when:
A. Resources are infinite
B. Resources are sharable
C. Circular wait happens
D. Threads are idle
25. What is SQL injection?
A. A virus
B. An attack on SQL queries
C. Syntax error
D. A database crash
26. HTML is used to:
A. Format hard disk
B. Design web pages
C. Access database
D. Secure data
2. Seedle data

27.	The CPU performs:
	A. Storage
	B. Input
	C. Processing
	D. Output
28.	Which of the following uses TCP port 22?
	A. FTP
	B. HTTP
	C. SSH 🗸
	D. Telnet
29.	Which technique is used to reduce data collisions?
	A. MAC
	B. CSMA/CD 🗸
	C. ARP
	D. DNS
30	Which one is a hybrid SDLC model?
50.	A. Waterfall
	B. Agile-Waterfall
	C. Spiral
	D. V-Model
	D. V Model
	mplex Level (15 Questions) Which scheduling algorithm avoids starvation?
31.	Mhich scheduling algorithm avoids starvation? A. FCFS B. SJF C. Priority D. Aging ✓ Which layer is responsible for encryption? A. Physical B. Data Link C. Presentation ✓ D. Application Big-O of merge sort: A. O(n) B. O(n log n) ✓ C. O(n²) D. O(log n)
31. 32. 33.	Which scheduling algorithm avoids starvation? A. FCFS B. SJF C. Priority D. Aging ✓ Which layer is responsible for encryption? A. Physical B. Data Link C. Presentation ✓ D. Application Big-O of merge sort: A. O(n) B. O(n log n) ✓ C. O(n²)
31. 32. 33.	Which scheduling algorithm avoids starvation? A. FCFS B. SJF C. Priority D. Aging ✓ Which layer is responsible for encryption? A. Physical B. Data Link C. Presentation ✓ D. Application Big-O of merge sort: A. O(n) B. O(n log n) ✓ C. O(n²) D. O(log n) In object-oriented design, cohesion should be: A. Low B. Moderate C. High ✓ D. Avoided Polymorphism allows: A. Single method to act differently ✓
31. 32. 33.	Which scheduling algorithm avoids starvation? A. FCFS B. SJF C. Priority D. Aging ✓ Which layer is responsible for encryption? A. Physical B. Data Link C. Presentation ✓ D. Application Big-O of merge sort: A. O(n) B. O(n log n) ✓ C. O(n²) D. O(log n) In object-oriented design, cohesion should be: A. Low B. Moderate C. High ✓ D. Avoided Polymorphism allows:

C. Duplicate classes
D. Static objects
36. Which command in Linux gives file permission?
A. chmod 🗸
B. ls
C. cp
D. mv 37. A race condition occurs when:
A. Variables are static
B. Threads share resources
C. RAM is full
D. Disk fails
38. Which SQL clause is used with GROUP BY?
A. ORDER BY
B. HAVING 🗸
C. LIMIT
D. EXISTS
39. What is blockchain?
A. Centralized ledger
B. Decentralized digital ledger
C. Private network
D. Encrypted DBMS
40. Which sorting is stable and efficient for large data?
A. Merge Sort
B. Selection Sort
C. Bubble Sort
D. Heap Sort 41. Role of DNS:
A. Encrypt data
B. Translate domain to IP
C. Detect viruses
D. Firewall
42. Which command connects remote machine?
A. ssh 🗸
B. ping
C. nslookup
D. tracert
43. Which OS feature allows multitasking?
A. Paging
B. Scheduling 🗸
C. Caching
D. Defragmentation
44. Which protocol provides reliability in data transfer?
A. UDP
B. IP
C. TCP Z D. ICMP
45. What is encapsulated in a TCP segment?
<u> </u>
A. Header and data

B. Only dataC. FrameD. Packet
Hard Level (15 Questions)
46. Which algorithm is used in public key encryption?
A. DES
B. RSA
C. MD5 D. SHA
47. Which OSI layer is responsible for session management.
A. Session
B. Transport
C. Network
D. Presentation
48. B-tree is best used in:
A. Sorting
B. Compilers
C. Databases
D. Game logic
49. How many bits are in an IPv6 address? A. 32
B. 64
C. 128
D. 256
50. CAP Theorem does NOT include:
A. Consistency
B. Availability
C. Partition Tolerance
D. Reliability 🗸
51. Docker is used for:
A. Database design
B. Code formatting
C. Containerization <a>D. Testing
52. Which protocol secures web communication?
A. HTTP
B. TCP
C. SSL/TLS 🗸
D. FTP
53. Which part of the CPU performs arithmetic operations?
A. ALU 🗸
B. CU
C. Register
D. Bus

54	4. Which type of memory is fastest?
	A. RAM
	B. SSD
	C. Cache
	D. HDD
55	5. Spanning Tree Protocol is used in:
	A. Routing
	B. Switching
	C. Encryption
	D. Firewall
56	5. Which one is used for quantum computing?
	A. Qubits 🗸
	B. Registers
	C. Threads
	D. Tokens
57	7. Technique used to break cipher algorithms:
	A. Brute force
	B. Debugging
	C. Coding
	D. Escaping
58	3. In distributed systems, consistency is ensured by:
	A. Clock sync
	B. Consensus algorithms ✓
	C. Virtual machines
	D. Firewalls
59	9. Which OS is used in embedded systems?
	A. RTOS 🗸
	B. Linux
	C. Windows
	D. Unix
60). Use of SHA-256:
	A. Encryption
	B. Hashing
	C. Compression
	D. Compilation
? Mix	ed Level (15 Questions)
	A WILLIAM A CORD A A A CO
61	1. Which is not an OOP principle?
	A. Inheritance
	B. Polymorphism
	C. Encapsulation

D. Compilation ✓
62. Which key is used in DB to link tables?
A. Unique Key

B. Foreign Key

C. Primary Key
D. Index Key
63. HTML is:
A. Programming language
B. Markup language 🗸
C. Script language
D. Query language
64. Which one is a web server?
A. Apache
B. MySQL
C. Git
D. Maven
65. Which keyword is used for inheritance in Java?
A. implements
B. extends 🗸
C. inherit
D. super
66. Stack Overflow occurs when:
A. Memory is full
B. Disk crashes
C. Code is optimized
D. Variable is undeclared
67. Deadlock prevention technique:
A. Banker's algorithm
B. Preemption
C. Virtualization
D. Paging
68. Which language runs in browser?
A. JavaScript
B. Java
C. C++
D. Python
69. Which layer compresses data in OSI model?
A. Data link
B. Transport
C. Presentation
D. Application
70. Use of ICMP:
A. DNS resolution
B. Error reporting
C. Email sending
D. Routing 71 Which algorithm is used in Diikstra's?
71. Which algorithm is used in Dijkstra's?
A. Greedy
B. Dynamic
C. Backtracking
D. Brute force 72. What does SSD stand for?
72. What does SSD stand for?
A. Secure Software Device

- B. Solid State Drive ✓
 C. Soft Server Data
 D. Static Storage Device
 73. Which protocol is faster but unreliable?
 A. TCP
 - B. UDP 🗸
 - C. FTP
 - D. HTTP

74. Java compiles to:

- A. Machine Code
- B. Bytecode
- C. Assembly
- D. Script

75. Cloud model that provides only storage and compute:

- A. SaaS
- B. PaaS
- C. IaaS
- D. DaaS

Basic Level (15 Questions)

1. Which of the following is an input device?

- A. Printer
- B. Monitor
- C. Keyboard
- D. Speaker

2. Which unit performs calculations in a computer?

- A. Control Unit
- B. Arithmetic Logic Unit
- C. Memory
- D. Register

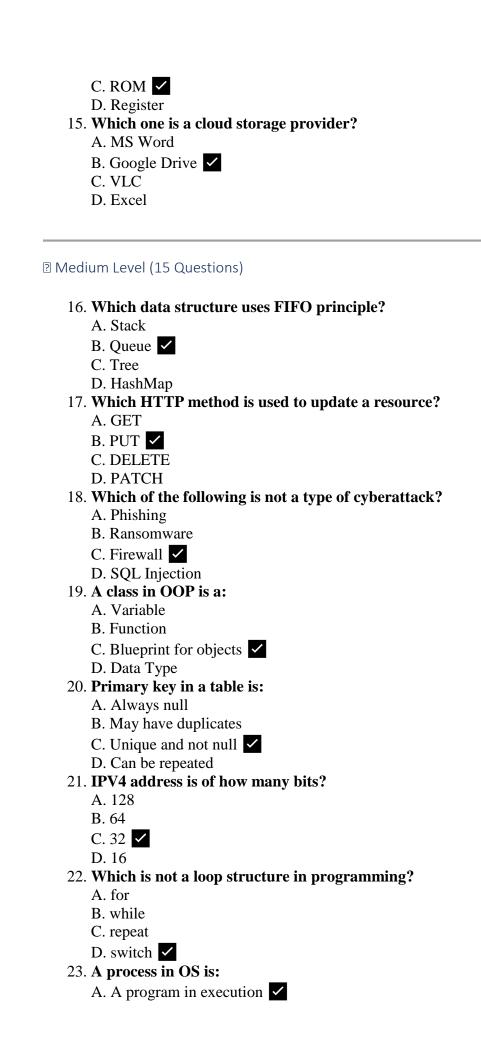
3. Which is not a feature of OOPs?

- A. Inheritance
- B. Encapsulation
- C. Compilation
- D. Polymorphism

4. A loop inside another loop is called:

- A. Continuous loop
- B. Nested loop
- C. Infinite loop
- D. Internal loop

5.	Which network device connects different networks?
	A. Switch
	B. Hub
	C. Router
	D. Repeater
6.	Which OS is developed by Microsoft?
	A. Linux
	B. Unix
	C. Windows 🗸
	D. MacOS
7.	Which command is used to view files in Linux?
	A. rm
	B. ls 🗸
	C. mkdir
	D. touch
8.	What is the default port of HTTP?
	A. 20
	B. 21
	C. 80 🗸
	D. 443
9.	What is a virus in cybersecurity?
	A. Hardware fault
	B. Malicious software
	C. Spam
10	D. Network error
10.	HTML stands for:
	A. Hyper Text Markup Language
	B. High Text Markup Language
	C. HyperText Markup Language
11	D. High Transfer Mark Language Which language is best suited for database interaction?
11.	A. HTML
	B. CSS
	C. SQL 🗸
	D. Python
12.	Which is a linear data structure?
	A. Tree
	B. Graph
	C. Stack
	D. Hash Table
13.	A bit is short for:
	A. Binary term
	B. Binary digit 🗸
	C. Binary tree
	D. Byte integer
14.	Which device stores data permanently?
	A. RAM
	B. Cache



B. A command
C. A thread
D. An address
24. Which one is a part of SDLC?
A. Evaluation
B. Testing ✓
C. Upgrading
D. Defragmentation
25. Which one is an example of asymmetric encryption?
A. DES
B. AES
C. Blowfish
D. RSA 🗸
26. What is the time complexity of insertion sort (average)?
A. O(log n)
B. $O(n^2)$
C. O(n log n)
D. O(n)
27. Which protocol assigns IP addresses?
A. DNS
B. DHCP ✓
C. FTP
D. TCP
28. HTML elements are enclosed within:
A. []
B. {}
C. ⇔ ✓
D. ()
29. Firewall is used for:
A. Data storage
B. File transfer
C. Network security
D. Internet speed
30. Which memory is volatile?
A. ROM
B. HDD
C. RAM
D. SSD
2.502
Compley Level (15 Questions)
Complex Level (15 Questions)
31. Which data structure is used in recursion?
A. Queue
_
B. Stack
C. Tree
D. Array

32. Which protocol is used for secured data transmission?
A. HTTP
B. FTP
C. HTTPS
D. TCP
33. Which one is NOT a type of database?
A. Relational
B. NoSQL
C. Hierarchical
D. Recursive
34. A semaphore is used to:
A. Sort data
B. Allocate memory
C. Manage processes
D. Control access in concurrency
35. Which one is a design principle in OOP?
A. Open/Closed Principle
B. Divide & Multiply
C. Dijkstra's Rule
D. Circular Queueing
36. Which algorithm is used in routing? A. KMP
B. Bellman-Ford
C. Quicksort
D. A*
37. Which command in SQL is used to grant privileges?
A. ALLOW
B. PERMIT
C GRANT \checkmark
C. GRANT Z D. SHARE
D. SHARE
D. SHARE 38. What is the purpose of NAT in networking?
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses C. Send emails
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses ✓ C. Send emails D. Resolve domains
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses ✓ C. Send emails D. Resolve domains 39. Which OS scheduling is most optimal but impractical?
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses ✓ C. Send emails D. Resolve domains 39. Which OS scheduling is most optimal but impractical? A. Round Robin
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses ✓ C. Send emails D. Resolve domains 39. Which OS scheduling is most optimal but impractical?
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses ✓ C. Send emails D. Resolve domains 39. Which OS scheduling is most optimal but impractical? A. Round Robin B. SJF C. FCFS
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses ✓ C. Send emails D. Resolve domains 39. Which OS scheduling is most optimal but impractical? A. Round Robin B. SJF C. FCFS D. Optimal ✓
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses ✓ C. Send emails D. Resolve domains 39. Which OS scheduling is most optimal but impractical? A. Round Robin B. SJF C. FCFS D. Optimal ✓ 40. What is polymorphism in OOP?
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses ✓ C. Send emails D. Resolve domains 39. Which OS scheduling is most optimal but impractical? A. Round Robin B. SJF C. FCFS D. Optimal ✓ 40. What is polymorphism in OOP? A. Many classes from one
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D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses ✓ C. Send emails D. Resolve domains 39. Which OS scheduling is most optimal but impractical? A. Round Robin B. SJF C. FCFS D. Optimal ✓ 40. What is polymorphism in OOP? A. Many classes from one B. One interface, many forms ✓ C. Object copying
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses ✓ C. Send emails D. Resolve domains 39. Which OS scheduling is most optimal but impractical? A. Round Robin B. SJF C. FCFS D. Optimal ✓ 40. What is polymorphism in OOP? A. Many classes from one B. One interface, many forms ✓
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses ✓ C. Send emails D. Resolve domains 39. Which OS scheduling is most optimal but impractical? A. Round Robin B. SJF C. FCFS D. Optimal ✓ 40. What is polymorphism in OOP? A. Many classes from one B. One interface, many forms ✓ C. Object copying D. Data hiding 41. REST stands for:
D. SHARE 38. What is the purpose of NAT in networking? A. Transfer files B. Translate IP addresses C. Send emails D. Resolve domains 39. Which OS scheduling is most optimal but impractical? A. Round Robin B. SJF C. FCFS D. Optimal 40. What is polymorphism in OOP? A. Many classes from one B. One interface, many forms C. Object copying D. Data hiding

		C. Random Environment Storage Transfer
		D. Route Entry Secure Tunnel
	42.	Which type of join returns common records?
		A. INNER JOIN 🗸
		B. LEFT JOIN
		C. RIGHT JOIN
		D. FULL JOIN
	43.	What is a buffer overflow?
		A. Virus
		B. Exceeding storage size
		C. Firewall block
		D. Disk corruption
	44.	Which component interprets instructions in CPU?
		A. ALU
		B. Register
		C. Control Unit
		D. RAM
	45.	Which protocol is used in Ping command?
		A. TCP
		B. IP
		C. ICMP
		D. UDP
_		
_		
	На	rd Level (15 Questions)
		What is used in proof-of-work blockchain consensus?
		What is used in proof-of-work blockchain consensus? A. Hash puzzles
		What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts
		What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases
	46.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking
	46.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today?
	46.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking
	46.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1
	46.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1 C. SHA-256 ✓
	46. 47.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1 C. SHA-256 D. AES
	46. 47.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1 C. SHA-256 D. AES Which is not a cyberattack type?
	46. 47.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1 C. SHA-256 D. AES Which is not a cyberattack type? A. Man-in-the-middle
	46. 47.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1 C. SHA-256 D. AES Which is not a cyberattack type? A. Man-in-the-middle B. DDoS
	46. 47.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1 C. SHA-256 D. AES Which is not a cyberattack type? A. Man-in-the-middle B. DDoS C. Buffering ✓
	46. 47.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1 C. SHA-256 □ D. AES Which is not a cyberattack type? A. Man-in-the-middle B. DDoS C. Buffering □ D. Spoofing
	46. 47.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1 C. SHA-256 D. AES Which is not a cyberattack type? A. Man-in-the-middle B. DDoS C. Buffering D. Spoofing Deadlock avoidance algorithm:
	46. 47.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1 C. SHA-256 □ D. AES Which is not a cyberattack type? A. Man-in-the-middle B. DDoS C. Buffering □ D. Spoofing Deadlock avoidance algorithm: A. Shortest Job First
	46. 47.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1 C. SHA-256 D. AES Which is not a cyberattack type? A. Man-in-the-middle B. DDoS C. Buffering D. Spoofing Deadlock avoidance algorithm: A. Shortest Job First B. LRU
	46. 47.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1 C. SHA-256 D. AES Which is not a cyberattack type? A. Man-in-the-middle B. DDoS C. Buffering D. Spoofing Deadlock avoidance algorithm: A. Shortest Job First B. LRU C. Banker's Algorithm
	46. 47. 48.	What is used in proof-of-work blockchain consensus? A. Hash puzzles B. Smart contracts C. Shared databases D. IP masking Which hash function is considered most secure today? A. MD5 B. SHA-1 C. SHA-256 D. AES Which is not a cyberattack type? A. Man-in-the-middle B. DDoS C. Buffering D. Spoofing Deadlock avoidance algorithm: A. Shortest Job First B. LRU

	B. Switching processes
	C. Replacing memory pages
	D. Allocating memory
51	. Which one uses artificial neurons?
	A. Machine Learning
	B. Data Structures
	C. SQL Queries
50	D. Routing Protocols
32	2. Which component stores BIOS? A. RAM
	B. ROM
	C. CPU
	D. Cache
53	3. In cloud, SaaS stands for:
	A. Software as a Service
	B. Software as a Solution
	C. Server as a System
	D. Storage as a Service
54	DFS uses which data structure?
	A. Queue
	B. Stack
	C. Heap
	D. Array
55	5. What is salting in password protection?
	A. Decryption
	B. Adding random data to hashes
	C. Encrypting passwords
56	D. Formatting passwords 5. Which is a symmetric encryption algorithm?
30	A. RSA
	B. AES 🗸
	C. ECC
	D. SHA
57	Which is used in AI for decision-making?
	A. Stack
	B. Queue
	C. Decision Tree
	D. Map
58	3. Which device is layer 2 and 3 in OSI?
	A. Router
	B. Switch (Layer 3)
	C. Hub
50	D. Bridge Which one is not a DRMS component?
39	9. Which one is not a DBMS component? A. Query Processor
	B. Compiler ✓
	C. Storage Manager
	D. Transaction Manager

). IPv6 is written in: A. Decimal
	B. Binary
	C. Hexadecimal
	D. Octal
? Mix	ed Level (15 Questions)
6	. What is a compiler?
	A. Converts source code to object code
	B. Executes program line by line
	C. Compresses files
	D. Decrypts software
62	2. Thread is a:
	A. Lightweight process
	B. OS
	C. Function
	D. Variable
6.	3. CSS is used for:
	A. Structuring
	B. Styling
	C. Scripting
_	D. Database
64	4. OSI model has how many layers?
	A. 5
	B. 6
	C. 7 🗸
<i>(</i>)	D. 8
0.	5. What is JSON? A. Protocol
	B. Markup language
	C. Data format
61	D. Scripting 5. Which operation causes anomaly without normalization?
U	A. Delete
	B. Insert
	C. Select
	D. Sort
6	7. Which cloud model allows full control of hardware?
	A. SaaS
	B. PaaS
	C. IaaS 🗸
	D. CaaS
68	3. Heap is used in:
	A. DFS
	B. BFS

	C. Priority Queue
	D. Stack
	69. Which operation is used in hashing?
	A. Modulus
	B. Divide
	C. Multiply D. Subtract
	70. Which one is NOT a Linux command?
	A. ls
	B. pwd
	C. cd
	D. dir 🗸
	71. Which data structure is best for expression evaluation?
	A. Stack
	B. Tree
	C. Queue
	D. Graph
	72. What is RAID in storage?
	A. Encryption
	B. Data recovery
	C. Redundant Array of Independent Disks
	D. Security mode
	73. Which one is not an OS?
	A. Ubuntu
	B. Fedora
	C. Oracle
	D. CentOS
	74. Git is used for:
	A. Web hosting
	B. Version control
	C. Database
	D. Testing
	75. DML stands for:
	A. Data Mapping Language
	B. Data Management Language
	C. Data Manipulation Language
	D. Data Machine Logic
5 P	Paris Lavel (15 Overtions)
id E	Basic Level (15 Questions)
	1. Which of the following is a non-volatile memory?
	1. Which of the following is a non-volutile memory:

A. RAM B. Cache

C. ROM
D. Register

2.	Which of these is an object-oriented language?
	A. COBOL
	B. C
	C. Java 🗸
	D. Assembly
3.	What does RAM stand for?
	A. Read Access Memory
	B. Random Access Memory
	C. Real Access Machine
	D. Run Access Memory
4.	Which data structure uses LIFO?
	A. Queue
	B. Stack
	C. Array
	D. Linked List
5.	What is the smallest unit of data in a computer?
	A. Byte
	B. Nibble
	C. Bit 🗸
	D. Word
6.	Which layer in OSI model is responsible for routing?
	A. Data Link
	B. Transport
	C. Network
	D. Session
7.	Which language is used to style web pages?
	A. HTML
	B. XML
	C. CSS
	D. SQL
8.	
	A. Operating Systems
	B. Network Security
	C. Software Development
	D. Web Hosting
9.	Which SQL command is used to retrieve data?
	A. FETCH
	B. GET
	C. RETRIEVE
10	D. SELECT
10.	Which symbol is used for single-line comments in C++?
	A. /* */ B. ##
	C. // 🗸
11	D The regult of 2 + 3 * 4 ice
11.	The result of 2 + 3 * 4 is: A. 20
	B. 14 🗸

C. 10 D. 18 12. Which of these is NOT a type of operating system? A. Batch B. Real-time C. Interactive D. Translative 13. A group of 8 bits is called: A. Nibble B. Byte C. Word D. Line 14. What does DBMS stand for?	
 A. Digital Binary Management System B. Database Management System C. Data Backup Monitoring Software D. Digital Business Management Software 15. Which protocol is used to transfer files? 	
A. SMTP B. FTP C. HTTP D. SSH	
Medium Level (15 Questions)	
 16. Which of the following is an example of NoSQL DB? A. MySQL B. Oracle C. MongoDB ✓ D. PostgreSQL 	
 17. Encapsulation means: A. Binding code and data together ✓ B. Hiding methods C. Inheritance D. Making classes public 	
18. Which of these is used in data link layer? A. IP B. MAC address C. TCP D. HTTP	
 19. Which sort is best for nearly sorted data? A. Merge Sort B. Insertion Sort ✓ C. Bubble Sort D. Quick Sort 	
20. In RDBMS, a table is also known as a: A. Field	

B. Row
C. Relation
D. Index
21. What is a constructor in OOPs?
A. Function to destroy an object
B. Function that returns nothing
C. Function that initializes an object D. Static method
22. Which one is a markup language? A. Python
B. C++
C. HTML ✓

D. JavaScript 23. Which of these is a loop construct?
A. switch
B. break
C. for
D. case
24. Which of the following is NOT a relational operator in C++? A. ==
A. == B. !=
C. += ✓
D.>=
25. Which port is used by SSH? A. 21
B. 23
C. 22 🗸
D. 80
26. Which normal form eliminates transitive dependency? A. 1NF
B. 2NF
C. 3NF
D. BCNF 27. In TCD/ID model, which leaves compagned to OSUs Application leaves?
27. In TCP/IP model, which layer corresponds to OSI's Application layer?
A. Application
B. Network
C. Transport
D. Internet
28. What is SQL injection? A. Hardware bug
B. Web browser extension
<u> </u>
C. Web attack to manipulate queries
D. Database design technique
29. Which of these is NOT a part of CPU?
A. ALU B. CU
C. RAM
D. Registers

30.	Which protocol does DNS use?
	A. TCP
	B. UDP C. HTTP
	D. SMTP
) (a)	mplay Laval (15 Quartians)
<i>y</i> Co	mplex Level (15 Questions)
31.	Which traversal gives sorted output in BST?
	A. Preorder
	B. Postorder
	C. Inorder
22	D. Level-order
32.	Which language is mostly used for AI applications?
	A. Perl B. Ruby
	C. Prolog 🗸
	D. Bash
33	Which statement about polymorphism is true?
33.	A. It's only possible in Java
	B. Method overloading is static polymorphism
	C. Polymorphism is a type of constructor
	D. It occurs only at runtime
34.	Which data structure is used in BFS traversal?
	A. Stack
	B. Queue
	C. Tree
	D. Hash Table
35.	In RAID 1, data is:
	A. Striped
	B. Duplicated
	C. Split D. Encoded
36	Deadlock can be avoided using:
50.	A. LRU
	B. Peterson's Algorithm
	C. Banker's Algorithm
	D. SSTF
37.	What is the function of ARP protocol?
	A. Resolve IP to MAC
	B. Assign IP
	C. Resolve hostname
	D. Encrypt data
38.	Which technique is used to prevent SQL injection?
	A. Using triggers
	B. Stored procedures

	C. Parameterized queries D. JavaScript validation
39	Which of the following is NOT a hashing algorithm?
	A. SHA
	B. MD5
	C. DES 🗸
	D. Whirlpool
	Which addressing mode is used in assembly?
	A. Immediate
	B. Indirect
	C. Random
	D. Sequenced
	Which Java keyword is used to inherit a class?
	A. implement
	B. inherit
	C. extends 🗸
	D. super
42.	What is the time complexity of binary search?
	A. O(n)
	B. $O(\log n)$
	$C. O(n^2)$
	D. O(1)
43.	Which key uniquely identifies a record in a table?
	A. Foreign key
	B. Alternate key
	C. Primary key
	D. Composite key
	Which OS is open source and widely used in servers?
	A. Windows
	B. Linux 🗸
	C. macOS
	D. Solaris
	Which cyberattack intercepts communication?
	A. Phishing
	B. DDoS
	C. Man-in-the-middle
	D. Malware

B. Checkpoints
C. Cryptographic hash
D. TCP/IP
48. Which of these is a graph traversal algorithm?
A. Dijkstra 🗸
B. Merge Sort
C. SJF
D. Binary Search
49. What is the full form of XSS in cyber security?
A. External Session Stealing
B. Cross Site Scripting
C. XML Structured Script
D. X-Level Security
50. Which one is not part of Agile?
A. Scrum
B. Waterfall
C. Kanban
D. XP
51. Which system call is used to create a process in Unix?
A. fork()
B. exec()
C. run()
D. call()
52. What is the output of sizeof (char) in C?
A. 2
B. 4
C. 1 🗸
D. 8
53. A B+ tree is optimized for: A. RAM
B. Disk Access
C. Heap Storage
D. Encryption 54. AES is a type of:
A. Asymmetric encryption
B. Symmetric encryptionC. Hashing
D. Steganography
55. Which CPU scheduling algorithm may cause starvation?
A. FCFS
B. Round Robin
C. SJF 🗸
D. Multilevel Queue
56. Which tag is used to create a link in HTML?
A. <link/>
B. <url></url>
C. <a> ✓
D. <href></href>

	Which is not a component of CPU?
	A. ALU
	B. CU
	C. RAM
	D. Registers
	Which protocol does HTTPS use underneath?
	A. FTP
1	B. SSL/TLS ✓
	C. SSH
	D. DNS
	n Big O notation, what is O(1)?
	A. Constant time
	B. Linear
	C. Logarithmic
	D. Exponential
	Vhich database uses documents instead of tables?
4	A. MySQL
]	B. PostgreSQL
(C. MongoDB 🗸
]	D. Oracle
1ixed	Level (15 Questions)
61. `	Which is a valid variable name in Java?
61.	Which is a valid variable name in Java?
61.	Which is a valid variable name in Java? A. 1name B. name_1 ✓
61.	Which is a valid variable name in Java? A. 1name B. name_1 C. name-1
61.	Which is a valid variable name in Java? A. 1name B. name_1 C. name-1 O. class
61. Y	Which is a valid variable name in Java? A. 1name B. name_1 C. name-1 D. class Which web protocol is stateless?
61. Y	Which is a valid variable name in Java? A. 1name B. name_1 C. name-1 O. class Which web protocol is stateless? A. FTP
61. Y	Which is a valid variable name in Java? A. 1name B. name_1 C. name-1 O. class Which web protocol is stateless? A. FTP B. HTTP
61. Y	Which is a valid variable name in Java? A. 1name B. name_1 C. name-1 O. class Which web protocol is stateless? A. FTP B. HTTP C. SSH
61. Y	Which is a valid variable name in Java? A. lname B. name_1 C. name-1 O. class Which web protocol is stateless? A. FTP B. HTTP C. SSH D. TCP
61. \\ 62. \\ 63	Which is a valid variable name in Java? A. 1name B. name_1 C. name-1 O. class Which web protocol is stateless? A. FTP B. HTTP C. SSH
61. Y	Which is a valid variable name in Java? A. Iname B. name_1 C. name-1 O. class Which web protocol is stateless? A. FTP B. HTTP C. SSH O. TCP Stack follows which order? A. FIFO
61. \\ 62. \\ 63. \\ 63. \\ 63. \\ 64. \\ 64. \\ 65	Which is a valid variable name in Java? A. 1name B. name_1 C. name-1 D. class Which web protocol is stateless? A. FTP B. HTTP C. SSH D. TCP Stack follows which order?
61. Y	Which is a valid variable name in Java? A. 1name B. name_1 C. name-1 C. class Which web protocol is stateless? A. FTP B. HTTP C. SSH C. TCP Stack follows which order? A. FIFO B. FILO
61. Y	Which is a valid variable name in Java? A. 1name B. name_1 C. name-1 C. class Which web protocol is stateless? A. FTP B. HTTP C. SSH C. TCP Stack follows which order? A. FIFO B. FILO C. LILO
61. \\ 62. \\ 63. \\ 63. \\ 64. \]	Which is a valid variable name in Java? A. 1name B. name_1 C. name-1 C. class Which web protocol is stateless? A. FTP B. HTTP C. SSH C. TCP Stack follows which order? A. FIFO B. FILO C. LILO C. LILO
61. Y	Which is a valid variable name in Java? A. 1name B. name_1 C. name-1 O. class Which web protocol is stateless? A. FTP B. HTTP C. SSH O. TCP Stack follows which order? A. FIFO B. FILO C. LILO O. LILO ONS resolves:
61. \\ 62. \\ 63. \\ 64. \] 64. \]	Which is a valid variable name in Java? A. 1 name B. name_1 C. name-1 C. class Which web protocol is stateless? A. FTP B. HTTP C. SSH C. TCP Stack follows which order? A. FIFO B. FILO C. LILO C. LILO C. LILO C. NS resolves: A. Port to IP
61. \\ 62. \\ 63. \\ 64. \\ 1	Which is a valid variable name in Java? A. Iname B. name_1 C. name-1 C. class Which web protocol is stateless? A. FTP B. HTTP C. SSH D. TCP Stack follows which order? A. FIFO B. FILO C. LILO D. LILO DNS resolves: A. Port to IP B. MAC to IP
61. \\ 62. \\ 63. \\ 64. \]	Which is a valid variable name in Java? A. Iname B. name_1 C. name-1 C. class Which web protocol is stateless? A. FTP B. HTTP C. SSH C. TCP Stack follows which order? A. FIFO B. FILO C. LILO D. LILO DNS resolves: A. Port to IP C. Hostname to IP
61. \\ 62. \\ 63. \\ 64. \] 65. \\ 65. \\	Which is a valid variable name in Java? A. Iname B. name_1 C. name-1 C. class Which web protocol is stateless? A. FTP B. HTTP C. SSH C. TCP Stack follows which order? A. FIFO B. FILO C. LILO C. LILO C. LILO C. LILO C. LILO C. Hostname to IP C. Hostname to IP C. Domain to URL

C CMTD Z
C. SMTP Z D. FTP
66. Which is not an access modifier in Java?
A. private
B. protected
C. secure
D. public
67. Which HTTP method deletes data?
A. GET
B. DELETE 🗸
C. POST
D. PUT
68. Which topology is most fault tolerant?
A. Bus
B. Star
C. Mesh
D. Ring
69. Which is a valid SQL constraint?
A. WHERE
B. GROUP
C. UNIQUE
D. FROM
70. Linux is based on:
A. Windows
B. Mac
C. Unix
D. OS/2
71. Cookies are used to:
A. Secure connection
B. Authenticate server
C. Store client data
D. Encrypt traffic
72. Which of the following is open-source software?
A. MS Office
B. Adobe Acrobat
C. LibreOffice
D. Norton Antivirus
73. What is the default port for MySQL?
A. 3306 🗸
B. 1521
C. 5432
D. 8080
74. Which tool is used for version control?
A. Maven
B. Git 🗸
C. Eclipse
D. Jenkins

75	A. Model View Controller B. Main View Control C. Module Version Code D. Monitor Virtual Command
□ Racio	c Level (15 Questions)
ii Dasic	Level (13 Questions)
1.	Which part of the computer performs arithmetic operations? A. RAM
	B. ALU
	C. CU
	D. ROM
2.	OOP concept that allows using the same function name with different
	implementations:
	A. Inheritance
	B. Abstraction
	C. Polymorphism 🗸
	D. Encapsulation
3.	Which of these is not a high-level language?
	A. Java
	B. Python
	C. Assembly D. C++
1	Which data structure is FIFO based?
7.	A. Stack
	B. Queue 🗸
	C. Array
	D. Tree
5.	Which device is used for internet connectivity?
	A. Printer
	B. Modem 🗸
	C. Scanner
	D. Monitor
6.	Which protocol is used to browse web pages?
	A. FTP
	B. HTTP
	C. TCP D. SNMP
7	What is an IP address?
/.	A. Hardware ID
	B. Physical address
	C. Logical address
	D. DNS address

8.	Which HTML tag is used for creating paragraphs?
	A.
	B. <div></div>
	C.
	D. <h1></h1>
9.	Which SQL command modifies existing data?
	A. SELECT B. INSERT
	C. UPDATE D. CREATE
10	Which language is interpreted, not compiled?
10.	A. Java
	B. C++
	C. Python
	D. C
11.	Which of the following is volatile memory?
	A. ROM
	B. SSD
	C. RAM
	D. HDD
12.	Which device translates domain names to IP addresses?
	A. Router
	B. Switch
	C. DNS server
	D. Modem
13.	Which symbol is used to denote an ID selector in CSS?
	A
	B. # 🗸
	C. @
1.1	D. *
14.	Which SQL clause filters rows?
	A. ORDER BY
	B. WHERE
	C. GROUP BY D. SELECT
15	The OS component that manages memory is called:
13.	A. Scheduler
	B. Loader
	C. Memory Manager
	D. Dispatcher
	D. Disputerior
Лed	ium Level (15 Questions)

? N

- $16. \ \textbf{In object-oriented programming, abstraction means:} \\$
 - A. Hiding data implementation B. Multiple inheritance

C. Class inheritance
D. Overloading
17. In a binary tree, how many children can a node have at most?
A. 3
B. 2 🗸
C. 4
D. 1
18. Which command is used to delete a table in SQL?
A. REMOVE TABLE
B. DELETE TABLE
C. DROP TABLE 🗸
D. TRUNCATE
19. Which HTML tag creates a hyperlink?
A. <href></href>
B. <link/>
C. <a> ✓
C. <a> ✓ D. <hlink></hlink>
20. What is the purpose of NAT in networking? A. Translate MAC to IP
B. Translate IP to hostname
C. Translate private IP to public IP
D. Encrypt data packets
21. Which scheduling algorithm selects the shortest process next?
A. FCFS
B. Round Robin
C. SJF 🗸
D. Priority
22. Which of these is not a Java primitive type?
A. int
B. float
C. String
D. char
23. Which database object is used to enforce data integrity?
A. Procedure
B. Trigger
C. Constraint
D. Cursor
24. Which protocol is used for secure web communication?
A. FTP
B. HTTP
C. HTTPS 🗸
D. SSH
25. Which of these sorts is best for large datasets on disk?
A. QuickSort
B. MergeSort ✓
C. BubbleSort
D. SelectionSort
26. Which concept allows a subclass to override a parent method?
A. Encapsulation
— — — — — — — — — — — — — — — — —

	B. Overloading
	C. Inheritance
	D. Polymorphism 🗸
27	Which attack exploits input fields in web forms?
2,	A. Phishing
	B. SQL Injection
	C. DoS
	D. Keylogging
28	. Which operator is used for logical AND in C++?
20	A. &
	B. && ✓
	C. AND
	D.
29	In normalization, which form removes partial dependencies?
2)	A. 1NF
	B. 2NF ✓
	C. 3NF
	D. BCNF
30	. What is the output of 5 % 2 in C++?
30	A. 2
	B. 2.5
	C. 1 🗸
	
Co	D. 0 mplex Level (15 Questions)
31 32 33	D. 0

25 I 1
35. In cybersecurity, what does 'CIA' stand for?
A. Confidentiality, Integrity, Availability
B. Code Integrity Algorithm
C. Cybersecurity and Internet Access
D. Communication, Internet, Access
36. Which HTTP method is idempotent?
A. GET 🗸
B. POST
C. PUT
D. PATCH
37. Which OS uses a monolithic kernel?
A. Windows
B. Linux 🗸
C. Android
D. macOS
38. What is the function of a load balancer?
A. Stores database
B. Routes traffic efficiently
C. Caches files
D. Encrypts messages
39. What does the ACID property in DBMS ensure?
A. Database performance
B. Query optimization
C. Transaction reliability
D. User authentication
40. Which cache mapping technique uses least memory?
A. Associative
B. Direct 🗸
C. Set associative
D. Multilevel
41. Which emerging tech uses distributed ledgers?
A. AI
B. IoT
C. Blockchain
D. Big Data
42. Which form of inheritance results in a diamond problem?
A. Single
B. Multilevel
C. Hierarchical
D. Multiple 43. Which data structure is ideal for recursion?
A. Queue B. Linked List
C. Stack
D. Tree
44. Which part of CPU manages instruction decoding? A. ALU
B. Control Unit

D. 45. W tir A. B. C.	Registers Cache hich web technology allows communication between client and server in real ne? AJAX WebSocket REST SOAP
Hard	Level (15 Questions)
	hat is the best-case time complexity of QuickSort?
A.	$O(n^2)$
B.	$O(n \log n)$
C.	O(n)
	$O(\log n)$
	ow many minimum edges are there in a connected graph with n nodes?
A.	
B.	n-1 🗸
	n+1
	n^2
48. W	hat does HTTPS use for encryption?
A.	SSL/TLS 🗸
B.	SSH
C.	IPsec
	VPN
	hat is a race condition in OS?
A.	Network conflict
B.	Concurrent access to shared resource
C.	CPU overflow
D.	Memory leak
50. In	deadlock, which condition ensures circular waiting?
	Mutual exclusion
B.	Hold and wait
C.	Circular wait 🗸
	No preemption
51. W	hich algorithm is used in Dijkstra's shortest path?
	Greedy 🗸
B.	Backtracking
	Divide and conquer
	Dynamic
	hich type of join returns only matching rows?
	LEFT JOIN
	RIGHT JOIN
	INNER JOIN 🗸
D.	OUTER JOIN

	B. DDoS C. Brute force
	D. MITM
54.	In Java, which collection does not allow duplicates?
	A. List
	B. Set 🗸
	C. Queue
	D. Map
55.	In RAID 5, how is data distributed?
	A. Duplicated
	B. Striped with parity C. Mirrored
56	D. Sequentially Which technology uses machine learning to identify patterns?
50.	A. Blockchain
	B. IoT
	C. AI
	D. WiFi
57.	In compiler design, what is a symbol table used for?
	A. Execution
	B. Code generation
	C. Storing variable info
	D. Linking
58.	Which is used for remote login?
	A. FTP
	B. SMTP
	C. SSH 🗸
- ^	D. POP3
59.	Which notation represents prefix?
	A. A + B
	B. +AB
	C. AB+ D. AB+
6 Ω	Which SQL keyword combines result sets?
υυ.	A. JOIN
	B. MERGE
	C. UNION ✓
	D. INTERSECT
	D. IIIIIIIIIIII

- A. MySQL
 B. Apache

C. Jenkins
D. MongoDB
62. Which file extension is used for Java files?
Ajava 🗸
Bjv
Cjs
Dclass
63. Which layer handles encryption in the OSI model?
A. Session
B. Transport
C. Presentation
D. Data Link
64. Which tool automates CI/CD?
A. Jenkins 🗸
B. GitHub
C. Docker
D. Git
65. Which of these is a primary key constraint?
A. Allows duplicates
B. Must be null
C. Unique and not null
D. Composite only
66. Which part of CPU stores current instructions? A. ALU
B. Register ✓ C. RAM
D. ROM
67. Which protocol ensures reliable delivery?
A. UDP
B. TCP ✓
C. FTP
D. HTTP
68. Which device forwards packets based on IP address?
A. Switch
B. Router 🗸
C. Bridge
D. Hub
69. Which cloud model offers virtual servers?
A. SaaS
B. IaaS 🗸
C. PaaS
D. DBaaS
70. Which language is used for scripting in web browsers?
A. PHP
B. JavaScript
C. Python
D. Perl
71. Which tag is used to insert an image in HTML?
A. <image/>

	B. ✓
	C. <src></src>
70	D. <pic> National Control Control National Cont</pic>
12	Which function returns string length in SQL?
	A. LENGTH()
	B. STRLEN() C. SIZE()
	D. CHARCOUNT()
73	Which technology uses containers?
, 0	A. Git
	B. Docker 🗸
	C. Java
	D. XML
74	Which of the following ensures availability in networks?
	A. Backup
	B. Load Balancer
	C. Proxy
7.5	D. DMZ
/5	Which of the following is an open-source database?
	A. SQL Server B. Oracle
	C. MySQL ✓
	D. DB2
	D. DB2
② Basio	: Level (15 Questions)
	Which of the following is considered the brain of the computer?
	Which of the following is considered the brain of the computer? A. RAM
	Which of the following is considered the brain of the computer? A. RAM B. CPU
	Which of the following is considered the brain of the computer? A. RAM B. CPU ✓ C. ROM
1.	Which of the following is considered the brain of the computer? A. RAM B. CPU C. ROM D. GPU
1.	Which of the following is considered the brain of the computer? A. RAM B. CPU C. ROM D. GPU Which generation of computers used integrated circuits?
1.	Which of the following is considered the brain of the computer? A. RAM B. CPU C. ROM D. GPU
1.	Which of the following is considered the brain of the computer? A. RAM B. CPU C. ROM D. GPU Which generation of computers used integrated circuits? A. First B. Second
1.	Which of the following is considered the brain of the computer? A. RAM B. CPU C. ROM D. GPU Which generation of computers used integrated circuits? A. First
 2. 	Which of the following is considered the brain of the computer? A. RAM B. CPU C. ROM D. GPU Which generation of computers used integrated circuits? A. First B. Second C. Third
 2. 	Which of the following is considered the brain of the computer? A. RAM B. CPU C. ROM C. ROM D. GPU Which generation of computers used integrated circuits? A. First B. Second C. Third D. Fourth
 2. 	Which of the following is considered the brain of the computer? A. RAM B. CPU C. ROM D. GPU Which generation of computers used integrated circuits? A. First B. Second C. Third D. Fourth What is encapsulation in OOP?
 2. 	Which of the following is considered the brain of the computer? A. RAM B. CPU C. ROM C. ROM D. GPU Which generation of computers used integrated circuits? A. First B. Second C. Third D. Fourth What is encapsulation in OOP? A. Combining data and functions into one unit
 2. 3. 	Which of the following is considered the brain of the computer? A. RAM B. CPU C. ROM C. ROM D. GPU Which generation of computers used integrated circuits? A. First B. Second C. Third D. Fourth What is encapsulation in OOP? A. Combining data and functions into one unit B. Using multiple classes C. Inheriting properties D. Overriding methods
 2. 3. 	Which of the following is considered the brain of the computer? A. RAM B. CPU ✓ C. ROM D. GPU Which generation of computers used integrated circuits? A. First B. Second C. Third ✓ D. Fourth What is encapsulation in OOP? A. Combining data and functions into one unit ✓ B. Using multiple classes C. Inheriting properties D. Overriding methods Which of these is a linear data structure?
 2. 3. 	Which of the following is considered the brain of the computer? A. RAM B. CPU C. ROM C. ROM D. GPU Which generation of computers used integrated circuits? A. First B. Second C. Third D. Fourth What is encapsulation in OOP? A. Combining data and functions into one unit B. Using multiple classes C. Inheriting properties D. Overriding methods

	C. Queue 🗸
	D. Hash Table
5.	Which of the following is a network topology?
	A. Stack
	B. Star 🗸
	C. Table
	D. Heap
6.	Which software model is also known as the verification and validation model?
	A. Agile
	B. Waterfall
	C. V-Model
	D. Spiral
7.	Which OS is open-source and widely used in servers?
	A. Windows
	B. macOS
	C. Linux 🗸
	D. DOS
8.	What does a firewall do?
	A. Boosts internet speed
	B. Blocks unauthorized access
	C. Installs antivirus
	D. Increases bandwidth
9.	What does HTML stand for?
	A. HighText Machine Language
	B. HyperText Markup Language
	C. Hyperlinks Text Marking Language
	D. None of the above
10	. Which command is used to remove all rows from a table in SQL?
	A. DROP
	B. DELETE
	C. TRUNCATE
	D. ERASE
11	. Which sorting algorithm has the best average performance?
	A. Bubble Sort
	B. Merge Sort 🗸
	C. Insertion Sort
	D. Selection Sort
12	. What does IP stand for in networking?
	A. Internet Protocol
	B. Internal Program
	C. Input Protocol
10	D. Integrated Packet
13	. Which logic gate outputs true only if both inputs are true?
	A. OR
	B. AND
	C. NOT
1 4	D. NAND Which have is used to uniquely identify payed in a table?
14	. Which key is used to uniquely identify rows in a table?
	A. Foreign Key

15	B. Primary Key C. Index D. Super Key Which one is an interpreted programming language? A. C++
	B. Java C. Python D. Assembly
? Med	lium Level (15 Questions)
16	. Which OOP concept allows reusability of code?
	A. Encapsulation
	B. Inheritance
	C. Polymorphism
	D. Abstraction
17	. Which data structure is used in a recursive function call?
	A. Queue
	B. Tree
	C. Stack
1.0	D. Graph
18	What type of IP address is 192.168.0.1?
	A. Public
	B. Private
	C. Broadcast D. Multicast
10	. Which model helps visualize data flow in software engineering?
1)	A. DFD
	B. ERD
	C. Gantt
	D. Use Case
20	What is the function of a kernel in an OS?
	A. Manages I/O only
	B. Schedules processes
	C. Encrypts data
	D. Loads software
21	. Which of the following is a symmetric encryption algorithm?
	A. RSA
	B. AES 🗸
	C. ECC
	D. Diffie-Hellman
22	. Which tag in HTML is used to include JavaScript?
	A. <js></js>
	B. <script></td></tr><tr><td></td><td>C. <java></td></tr><tr><td></td><td>D. <code></td></tr></tbody></table></script>

24	A. SELECT B. SELECT DISTINCT C. SELECT UNIQUE D. FILTER Which searching algorithm is best for sorted arrays? A. Linear Search B. Jump Search C. Binary Search D. Hashing
23	 Which addressing mode is used in array implementation? A. Immediate B. Register C. Indexed D. Direct
26	 Which protocol ensures email delivery? A. FTP B. SMTP ✓ C. HTTP D. SNMP
27	 Which database index improves search performance? A. Cluster B. Index C. View D. Cursor
28	B. Curson 8. What is the time complexity of QuickSort in the worst case? A. O(n log n) B. O(log n) C. O(n ²)
29	 Which OS scheduling algorithm is preemptive? A. FCFS B. SJF C. Round Robin D. Priority (non-preemptive)
30	D. Priority (non-preemptive) D. What does DNS do in a network? A. Provides internet speed B. Assigns IP addresses C. Resolves domain names D. Manages routing
	omplex Level (15 Questions) . Which property ensures a transaction completes fully or not at all in DBMS?
JI	A. Durability B. Consistency

C. Atomicity
D. Isolation
32. Which algorithm is used in route optimization (like Google Maps)?
A. Bellman-Ford
B. Dijkstra 🗸
C. Prim's
D. BFS
33. What is virtual memory?
A. Memory on the cloud
B. Hard disk space used as RAM
C. Reserved cache
D. Non-volatile RAM
34. Which of the following protects against man-in-the-middle attacks? A. Firewalls
_
B. SSL/TLS
C. NAT
D. Routers
35. Which protocol helps assign IP addresses dynamically? A. DNS
B. DHCP
C. FTP
D. TCP 26 What is the main rele of a compiler?
36. What is the main role of a compiler? A. Code optimization
B. Code interpretation
<u> </u>
C. Code translation to machine code
D. Code formatting 37. Which hashing technique handles collision with least memory use?
A. Linear Probing
B. Chaining
C. Separate Addressing
D. Mod Hashing
38. Which SDLC model emphasizes risk analysis?
A. Waterfall
B. Spiral
C. Agile
D. V-Model
39. Which algorithm solves dynamic problems by breaking into overlapping
subproblems?
A. Divide & Conquer
B. Greedy
C. Dynamic Programming
D. Backtracking
40. Which HTTP method is considered unsafe?
A. GET
B. PUT
C. POST 🗸
D. DELETE

41. Which RAID level provides fault tolerance and speed both?
A. RAID 0
B. RAID 1
C. RAID 5
D. RAID 2
42. Which OS algorithm handles page replacement optimally?
A. FIFO
B. LRU
C. Optimal
D. Random
43. Which network layer in OSI adds source/destination IPs?
A. Transport
B. Network 🗸
C. Data Link
D. Application
44. Which of the following is not a relational database?
A. PostgreSQL
B. Oracle
C. MongoDB 🗸
D. MySQL
45. Which OOP principle supports interface over implementation inheritance?
A. Liskov Substitution
B. Abstraction
C. Encapsulation
D. Polymorphism
Hard Level (15 Questions)
46 Which layer of the OCI model engages arrow from delivery?
46. Which layer of the OSI model ensures error-free delivery? A. Network
<u> </u>
B. Transport
C. Session
D. Application 47. Which schoolsling algorithm suffers from storyation?
47. Which scheduling algorithm suffers from starvation? A. FCFS
A. FCFS B. Round Robin
C. Priority Scheduling
D. Multilevel Queue 48 Which attack contures data during transmission?
48. Which attack captures data during transmission?

A. DoS

D. XSS

B. Keylogging C. MITM

A. Binary Tree B. AVL Tree

49. Which tree is used for indexing in DBMS?

C. B+ Tree
D. Red-Black Tree
50. Which Java keyword prevents method overriding?
A. static
B. final 🗸
C. private
D. abstract
51. What is the complexity of matrix multiplication (naïve method)?
A. $O(n^2)$
B. $O(n^3)$
C. $O(n \log n)$
D. O(log n)
52. Which protocol works at transport layer of TCP/IP model?
A. FTP
B. TCP 🗸
C. IP
D. ARP
53. What is the effect of normalization in DBMS?
A. Data redundancy reduction
B. Data duplication
C. Increased access speed
D. Complex queries
54. Which of the following is <i>not</i> part of the ACID properties?
A. Atomicity
B. Consistency
C. Dependency
D. Isolation
55. Which cache memory principle is based on recent use?
A. FIFO
B. MRU
C. LRU 🗸
D. Random
56. Which file system is used in modern Linux systems?
A. FAT32
B. NTFS
C. ext4
D. HFS
57. Which algorithm is used in cryptographic hashing? A. RSA
B. SHA-256 🗸
C. AES
D. TLS 50 Which greaters call in OS is used to except a process?
58. Which system call in OS is used to create a process?
A. fork()
B. exec()
C. kill()
D. wait() 50. Which lever of TCD/ID or sures reliability?
59. Which layer of TCP/IP ensures reliability?
A. Application

	B. Transport ✓
	C. Network
	D. Physical
60.	Which NoSQL database uses key-value pairs?
	A. MongoDB
	B. CouchDB
	C. Redis 🗸
	D. Neo4j
? Mixe	d Level (15 Questions)
61.	Which of the following is a hybrid cloud provider?
	A. Dropbox
	B. Azure
	C. Gmail
	D. Apache
62.	Which of these is used for virtualization?
	A. Jenkins
	B. VMWare
	C. Kubernetes
	D. GitLab
63.	Which version of IP supports more addresses?
	A. IPv4
	B. IPv5
	C. IPv6
	D. IPv3
64.	Which of these is an interface definition language?
	A. YAML
	B. JSON
	C. WSDL
	D. XSLT
65.	Which memory is closest to the CPU?
	A. HDD
	B. RAM
	C. Cache
	D. SSD
00.	Which of these helps scale microservices? A. Docker
	B. Kubernetes
	C. Nginx
67	D. Maven Which of these is an example of functional programming?
07.	Which of these is an example of functional programming? A. Java
	B. C++
	C. Haskell
	C. Huskell
	D. Perl

68. Which algorithm is used for compression?
A. Dijkstra
B. Huffman
C. Prim's
D. QuickSort
69. Which of these is a structured data format?
A. HTML
B. JSON 🗸
C. JPEG
D. WAV
70. Which component of CPU performs logic operations?
A. Register
B. ALU 🗸
C. Control Unit
D. Cache
71. Which Java collection allows duplicates and maintains order?
A. Set
B. Map
C. List 🗸
D. TreeSet
72. Which OSI layer establishes sessions between hosts?
A. Transport
B. Application
C. Session
D. Network
73. What is the full form of SaaS?
A. Software as a Solution
B. Software as a Service
C. Software and System
D. Service at a Server
74. Which encryption is one-way only?
A. AES
B. RSA
C. Hashing
D. DES
75. What is the main benefit of cloud computing?
A. Limited scalability
B. Vendor lock-in
C. On-demand resource availability
D. Local hosting

1. What does GUI stand for?
A. Graphical User Interface
B. General User Input
C. Graphic Unit Interaction
D. General Usage Interface
2. Which component temporarily holds data being processed?
A. Hard Disk
B. Cache
C. RAM
D. ROM
3. Which of the following is a feature of OOPs?
A. Modularity 🗸
B. Compilation
C. Parsing
D. Interpretation
4. Which data structure follows LIFO order?
A. Queue
B. Stack
C. Linked List
D. Tree
5. Which device connects multiple networks together?
A. Switch
B. Hub
C. Router
D. Modem
6. Which SDLC model executes each phase once in order?
A. Spiral
B. Waterfall
C. Agile
D. RAD
7. Which operating system is developed by Apple?
A. Android
B. Windows
C. Linux
D. macOS ✓
8. Which of the following is a strong password?
A. 12345678
B. qwerty
C. P@ssW0rd#123
D. password1
9. CSS is used in web development for:
A. Structure
B. Database
C. Styling
D. Backend logic
10. Which SQL clause is used to sort results?
A. GROUP BY

	B. HAVING
	C. ORDER BY
	D. WHERE
11.	. Which algorithm is NOT a sorting algorithm?
	A. Bubble Sort
	B. Insertion Sort
	C. Binary Search
	D. Merge Sort
12.	. Which of the following uniquely identifies a device on a network?
	A. MAC Address
	B. Hostname
	C. Gateway
	D. Subnet
13.	. Which component performs arithmetic operations in a computer?
	A. Register
	B. ALU 🗸
	C. Cache
	D. CU
14.	. Which language is primarily used for Android development?
	A. Swift
	B. Kotlin 🗸
	C. PHP
	D. Go
15.	. Which of the following is a spreadsheet program?
	A. Word
	B. PowerPoint
	C. Excel
	D. Access
? Med	ium Level (15 Questions)
16.	. Which access modifier in Java allows visibility within the same package?
16.	A. private
16.	A. private B. protected
16.	A. private B. protected C. default ✓
	A. private B. protected C. default D. public
	A. private B. protected C. default ✓ D. public Which data structure is used in BFS (Breadth-First Search)?
	A. private B. protected C. default D. public Which data structure is used in BFS (Breadth-First Search)? A. Stack
	A. private B. protected C. default ✓ D. public Which data structure is used in BFS (Breadth-First Search)? A. Stack B. Queue ✓
	A. private B. protected C. default ✓ D. public . Which data structure is used in BFS (Breadth-First Search)? A. Stack B. Queue ✓ C. Heap
17.	A. private B. protected C. default D. public Which data structure is used in BFS (Breadth-First Search)? A. Stack B. Queue C. Heap D. Tree
17.	A. private B. protected C. default ✓ D. public Which data structure is used in BFS (Breadth-First Search)? A. Stack B. Queue ✓ C. Heap D. Tree Which address is used to send packets to all nodes in a network?
17.	A. private B. protected C. default D. public Which data structure is used in BFS (Breadth-First Search)? A. Stack B. Queue C. Heap D. Tree Which address is used to send packets to all nodes in a network? A. Unicast
17.	A. private B. protected C. default D. public Which data structure is used in BFS (Breadth-First Search)? A. Stack B. Queue C. Heap D. Tree Which address is used to send packets to all nodes in a network? A. Unicast B. Anycast
17.	A. private B. protected C. default D. public Which data structure is used in BFS (Breadth-First Search)? A. Stack B. Queue C. Heap D. Tree Which address is used to send packets to all nodes in a network? A. Unicast B. Anycast C. Broadcast
17.	A. private B. protected C. default D. public Which data structure is used in BFS (Breadth-First Search)? A. Stack B. Queue C. Heap D. Tree Which address is used to send packets to all nodes in a network? A. Unicast B. Anycast

19. Which diagram is used in requirement gathering?
A. Gantt chart
B. DFD 🗸
C. ERD
D. Flowchart
20. Which OS concept allows multiple users to share system resources?
A. Single-tasking
B. Multi-threading
C. Multi-user
D. Kernel
21. Which of the following is a passive attack in cybersecurity?
A. Phishing
B. Eavesdropping
C. DoS
D. SQL Injection
22. What is the use of <form> in HTML?</form>
A. Display content
B. Add styling
C. Submit user input
D. Animate text
23. Which SQL keyword is used to combine rows from two or more tables?
A. MERGE
B. COMBINE
C. JOIN 🗸
D. CONNECT
24. Which algorithm uses a divide-and-conquer strategy?
A. Bubble Sort
B. Binary Search
C. Linear Search
D. Insertion Sort
25. Which bus carries control signals in a computer system?
A. Data Bus
B. Control Bus
C. Address Bus
D. Serial Bus
26. Which protocol is used for secure web browsing?
A. HTTP
B. FTP
C. HTTPS 🗸
D. SMTP
27. Which statement is used to remove a table from the database?
A. REMOVE
B. DELETE
C. DROP
D. ERASE
28. What is the height of a binary tree with only a root node?
A. 0 🗸
B. 1

C1	
D. 2	
29. Which OSI layer is responsible for encryption and compression?	
A. Transport	
B. Presentation	
C. Session	
D. Application	
30. Which memory unit is fastest?	
A. RAM	
B. ROM	
C. Cache	
D. SSD	
Complex Level (15 Questions)	
31. Which SQL constraint ensures no two rows have the same value in a column	1?
A. CHECK	
B. UNIQUE	
C. NOT NULL	
D. FOREIGN KEY	
32. Which tree is height-balanced and used in databases?	
A. Binary Tree B. AVL Tree	
C. B-Tree	
D. Heap 22 Which layer of OSI handles segmentation and reassembly?	
33. Which layer of OSI handles segmentation and reassembly? A. Network	
B. Transport C. Data Link	
D. Application	
34. Which of the following hashing techniques uses a secondary hash function?	
A. Linear Probing	
B. Chaining	
C. Double Hashing	
D. Open Addressing	
35. Which metric evaluates efficiency of an algorithm based on resource use?	
A. Time Complexity	
B. Accuracy	
C. Redundancy	
D. Compression Ratio	
36. Which protocol is used to securely transfer files over SSH?	
A. FTP	
B. SCP 🗸	
C. HTTP	
D. SNMP	
37. Which architecture uses control and data signals in one bus?	
A. Von Neumann 🗸	

	B. Harvard
	C. ISA
	D. PCI
38.	Which OS concept ensures process independence?
	A. Pipelining
	B. Memory Protection
	C. Scheduling
	D. Paging
39.	Which design pattern encapsulates a request as an object?
	A. Observer
	B. Strategy
	C. Command
	D. Singleton
40.	Which sorting algorithm performs worst with nearly sorted input?
	A. Merge Sort
	B. Quick Sort 🗸
	C. Bubble Sort
	D. Insertion Sort
41.	Which normal form removes transitive dependencies?
	A. 1NF
	B. 2NF
	C. 3NF
	D. BCNF
42.	Which method is used to overload operators in C++?
	A. define
	B. overload
	C. operator
	D. virtual
43.	Which cloud model provides a complete software solution?
	A. IaaS
	B. PaaS
	C. SaaS
	D. DaaS
44.	Which algorithm ensures mutual exclusion in concurrent processing
	A. Kruskal's
	B. Dijkstra's
	C. Peterson's 🗸
	D. Floyd's
45.	Which data structure gives O(1) time complexity for search?
	A. Array
	B. Binary Tree
	C. Hash Table
	D. Stack

46. Which protocol does SNMP use for transport? A. TCP B. FTP C. UDP ✓
B. FTP C. UDP ✓
C. UDP 🗸
D. ICMD
D. ICMP
47. Which OS scheduling method is best for time-sharing systems?
A. FCFS
B. Round Robin
C. Priority
D. SJF
48. Which attack manipulates database queries via input fields?
A. CSRF B. DoS
C. SQL Injection D. MITM
49. What's the time complexity of Heap Sort?
A. O(n)
B. O(n log n)
C. O(n ²)
D. O(log n)
50. Which microprocessor register holds the memory address of data?
A. MAR
B. MDR
C. IR
D. PC
51. Which RAID level offers block-level striping and distributed parity?
A. RAID 0
B. RAID 1
C. RAID 5
D. RAID 6
52. Which of the following is used to isolate virtual networks in cloud?
A. CIDR
B. VPC C. NAT
D. VPN
53. Which of the following is not a type of NoSQL database?
A. Key-Value
B. Document
C. Relational
D. Graph
54. Which data structure does DFS use internally?
A. Queue
B. Tree
C. Stack
D. Array

55	. What is a dangling pointer in C?
	A. Pointer to heap
	B. Pointer to NULL
	C. Pointer to freed memory
	D. Static pointer
56	. Which is used to implement lazy evaluation in functional programming?
	A. Streams
	B. Recursion
	C. Maps
	D. Queues
57	. Which model is best for AI/ML model deployment?
	A. Waterfall
	B. Spiral
	C. DevOps ✓
	D. V-Model
58	. Which part of the processor fetches and decodes instructions?
	A. ALU
	B. Control Unit
	C. MAR
	D. Cache
59	. Which statement releases a lock in multithreading?
	A. wait()
	B. notify()
	C. unlock()
	D. join()
60	. Which algorithm is best for cycle detection in graphs?
	A. DFS
	B. BFS
	C. Prim's
	D. Kruskal's
2 Mixe	ed Level (15 Questions)
61	. Which of these is NOT a compiled language?
01	A. C
	B. Java
	C. Python
	D. Go
62	. Which data structure is optimal for implementing LRU cache?
02	A. Array
	B. Stack
	D. Dimen

D. Queue 63. Which OS handles deadlock by preemption?

A. Real-time

B. Multiprogramming

C. LinkedHashMap

	C. Distributed OS 🗸
	D. Time-sharing
64.	Which file format is used for storing web configuration in Spring Boot? A. JSON
	B. YAML
	C. XML
<u> </u>	D. TXT
65.	Which header file is required for file operations in C++?
	A. <iostream> B. <conio.h></conio.h></iostream>
	<u> </u>
	C. <fstream></fstream>
	D. <stdlib.h></stdlib.h>
66.	Which HTTP response code means "Forbidden"?
	A. 200 P. 404
	B. 404
	C. 403
	D. 401
67.	Which of the following is a machine learning framework?
	A. NumPy
	B. Matplotlib
	C. TensorFlow
	D. Flask
68.	Which component ensures two transactions do not interfere?
	A. Lock Manager ✓
	B. Query Optimizer
	C. Buffer Manager
	D. Scheduler
69.	Which attack is specific to wireless networks?
	A. ARP Spoofing
	B. Evil Twin
	C. XSS
	D. Ransomware
70.	Which layer manages session establishment in TCP/IP?
	A. Transport 🗸
	B. Network
	C. Application
	D. Data Link
71.	Which is a dynamic routing protocol?
	A. DNS
	B. OSPF ✓
	C. TCP
	D. NAT
72.	Which command is used to compile Java programs?
	A. javac 🗸
	B. java
	C. jvm
	D. jar
73.	Which hashing algorithm is used in blockchain?
	A. MD5

- B. SHA-256
- C. AES
- D. DES

74. What is containerization in DevOps?

- A. Network virtualization
- B. Process isolation
- C. File system encryption
- D. Code generation

75. Which Python library is used for data analysis?

- A. Matplotlib
- B. Pandas
- C. TensorFlow
- D. PyTorch