

Technical PYQ-Style Question Bank

These are public-pattern/PYQ-style questions. Use them for fast recall.

Data Structures

Q1

Which data structure follows LIFO?

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

Answer: B

Q2

Which data structure is used in BFS?

- A. Stack
- B. Queue
- C. Heap
- D. Hash table

Answer: B

Q3

Average time complexity of binary search is:

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

Answer: B

Q4

Binary search requires:

- A. unsorted array
- B. sorted array
- C. linked list only
- D. stack

Answer: B

Q5

Which sorting algorithm is best suited for linked list sorting among common choices?

- A. Bubble sort
- B. Merge sort
- C. Heap sort
- D. Selection sort

Answer: B

Operating Systems

Q6

A process is:

- A. program in execution
- B. file stored on disk
- C. compiler output only
- D. hardware interrupt

Answer: A

Q7

Which scheduling algorithm uses time quantum?

- A. FCFS
- B. SJF
- C. Round Robin
- D. Priority only

Answer: C

Q8

Which is not a necessary condition for deadlock?

- A. Mutual exclusion
- B. Hold and wait
- C. Circular wait
- D. Compilation

Answer: D

Q9

Paging divides memory into:

- A. variable-size segments
- B. fixed-size pages
- C. only files
- D. registers

Answer: B

Q10

A page fault occurs when:

- A. program syntax is wrong
- B. required page is not in RAM
- C. CPU overheats
- D. file is deleted

Answer: B

DAA

Q11

Worst-case time complexity of quick sort:

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

Answer: C

Q12

Merge sort worst-case complexity:

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

Answer: B

Q13

Dijkstra's algorithm fails with:

- A. directed graph
- B. weighted graph
- C. negative edge weights
- D. connected graph

Answer: C

Q14

Dynamic programming is useful when:

- A. there are no repeated subproblems
- B. overlapping subproblems exist
- C. input is always sorted
- D. memory is unlimited

Answer: B

Networking

Q15

DNS port number is:

- A. 21
- B. 22
- C. 53
- D. 80

Answer: C

Q16

HTTPS uses port:

- A. 25
- B. 53
- C. 80
- D. 443

Answer: D

Q17

Which protocol is reliable and connection-oriented?

- A. UDP
- B. TCP

- C. IP
- D. ARP

Answer: B

Q18

Switch forwards frames using:

- A. IP address
- B. MAC address
- C. port number only
- D. DNS name

Answer: B

Q19

ARP is used to find:

- A. IP from domain
- B. MAC from IP
- C. port from protocol
- D. route from router

Answer: B

Embedded Systems

Q20

A microcontroller includes:

- A. CPU only
- B. CPU, memory, and I/O peripherals
- C. monitor and keyboard
- D. operating system only

Answer: B

Q21

ADC converts:

- A. digital to analog
- B. analog to digital
- C. AC to DC only
- D. serial to parallel

Answer: B

Q22

Interrupt-driven I/O is generally better than polling because:

- A. it wastes more CPU
- B. CPU need not repeatedly check device status
- C. it removes hardware
- D. it cannot handle real-time tasks

Answer: B

Q23

I2C commonly uses:

- A. one wire
- B. two wires
- C. four data wires only
- D. optical cable

Answer: B

Q24

Watchdog timer is used to:

- A. display graphics
- B. reset system if software hangs
- C. compile code
- D. increase RAM

Answer: B

Software Engineering and QA

Q25

Waterfall model is:

- A. iterative
- B. sequential
- C. random
- D. test-only

Answer: B

Q26

Agile emphasizes:

- A. fixed requirements only
- B. customer collaboration and iteration
- C. no testing
- D. no documentation ever

Answer: B

Q27

Regression testing checks:

- A. old functionality after changes
- B. only UI color
- C. only database size
- D. developer salary

Answer: A

Q28

Severity means:

- A. urgency to fix
- B. impact of bug
- C. tester name
- D. test case ID

Answer: B

Q29

Selenium is mainly used for:

- A. web UI automation
- B. database design
- C. operating system scheduling
- D. network routing

Answer: A

Q30

Postman is commonly used for:

- A. API testing
- B. CPU scheduling
- C. binary search
- D. embedded timers

Answer: A