

CCAT – SECTION B (C Programming & DSA) | 50 Practice Questions

SECTION 1 – C PROGRAMMING (Q1–25)

1. Where are function declarations stored?

- A. Source file
- B. Header file
- C. Binary file
- D. Object file

2. What is the output?

int x=2; while(x<=8){ printf("%d",x); x*=2;}

- A. 2468
- B. 248
- C. 24
- D. Infinite loop

3. What happens in infinite recursion?

- A. Output printed
- B. Program ends normally
- C. Stack overflow
- D. Compile error

4. Output of: char c[]="CDAC"; printf("%s",c);

- A. CDAC
- B. DAC
- C. C
- D. Error

5. Output of extern variable without definition?

- A. 0
- B. Garbage
- C. Linker error
- D. Compile error

6. int a=5; a++; printf("%d",a);

- A. 4
- B. 5
- C. 6
- D. Error

7. Macro replaces during:

- A. Compile time
- B. Runtime
- C. Execution
- D. Linking

8. Size of int (32-bit)?

- A. 2
- B. 4
- C. 8
- D. Depends

9. Output of recursive function without base case?

- A. 0
- B. 1
- C. Infinite loop
- D. Stack overflow

10. Which function copies string?

- A. strcpy
- B. strcmp
- C. strlen
- D. strcat

11. What is returned by malloc on failure?

- A. 0
- B. NULL
- C. -1
- D. Garbage

12. Which operator has highest priority?

- A. +
- B. *
- C. ()
- D. =

13. What is sizeof(char)?

- A. 1
- B. 2
- C. 4
- D. 8

14. Array index starts from?

- A. 0
- B. 1
- C. -1
- D. Depends

15. Which is not a storage class?
A. auto B. static C. extern D. register E. volatile

16. Output of printf("%d", 5/2);
A. 2 B. 2.5 C. 3 D. Error

17. What does ++i mean?
A. Post increment B. Pre increment C. Multiply D. Divide

18. Which loop executes at least once?
A. for B. while C. do-while D. none

19. Function inside function is?
A. Allowed B. Not allowed C. Optional D. Macro

20. Header for printf?
A. stdlib.h B. math.h C. stdio.h D. string.h

21. Which operator is used for pointers?
A. & B. * C. -> D. All

22. What is dangling pointer?
A. Valid pointer B. Deleted memory pointer C. NULL pointer D. Array pointer

23. Which is faster?
A. Array B. Linked list C. Stack D. Queue

24. Size of float?
A. 2 B. 4 C. 8 D. 16

25. Which is not loop?
A. for B. while C. repeat D. do-while

SECTION 2 – DATA STRUCTURES (Q26–50)

26. Stack works on:
A. FIFO B. LIFO C. Random D. Priority

27. Queue works on:
A. FIFO B. LIFO C. FILO D. None

28. Time complexity of binary search?
A. O(n) B. O(log n) C. O(n²) D. O(1)

29. Which tree has max 2 children?
A. Binary tree B. AVL C. Heap D. Graph

30. Full binary tree has:
A. 0 or 2 children B. Only 2 children C. Only 1 child D. None

31. Heap is used in:
A. BFS B. DFS C. Heap sort D. Merge sort

32. Best case of quick sort?
A. O(n²) B. O(n log n) C. O(n) D. O(1)

33. Which is non-linear DS?
A. Stack B. Queue C. Tree D. Array

34. Hashing is used for?
A. Sorting B. Searching C. Traversing D. Merging

35. Inorder traversal of BST gives?
A. Sorted output B. Reverse order C. Random D. None

36. Which is not linear DS?
A. Array B. Stack C. Graph D. Queue

37. Graph traversal uses:
A. DFS B. BFS C. Both D. None

38. AVL tree is?
A. Balanced BST B. Heap C. Graph D. List

39. Worst case of bubble sort?
A. $O(n)$ B. $O(\log n)$ C. $O(n^2)$ D. $O(1)$

40. Which uses recursion?
A. DFS B. BFS C. Queue D. Stack only

41. Stack overflow occurs when?
A. Full stack B. Empty stack C. Large input D. Syntax error

42. Circular queue avoids?
A. Overflow B. Underflow C. Wastage D. Sorting

43. Binary tree max nodes at level L?
A. 2^L B. L^2 C. L D. $2L$

44. Time complexity of merge sort?
A. $O(n)$ B. $O(n \log n)$ C. $O(n^2)$ D. $O(1)$

45. Which is dynamic DS?
A. Array B. Stack C. Linked list D. All

46. Which is LIFO?
A. Queue B. Stack C. Array D. Tree

47. Which is not sorting algo?
A. Merge B. Quick C. Heap D. DFS

48. Parent of heap stored at index i?
A. $i/2$ B. $2i$ C. $i+1$ D. $i-1$

49. Worst case of linear search?
A. $O(1)$ B. $O(n)$ C. $O(\log n)$ D. $O(n^2)$

50. Which DS uses pointers?
A. Array B. Stack C. Linked List D. Queue