C Programming True/False Questions

1. The 'main' function is the entry point of a C program. (True)

2. C is a high-level programming language. (True)

3. In C, all variables must be declared before they are used. (True)

4. The 'printf' function is used to read input from the user. (False)

5. The 'scanf' function can be used to print output to the screen. (False)

6. The C language supports object-oriented programming. (False)

7. A pointer in C holds the memory address of another variable. (True)

8. The '&' operator is used to access the value pointed by a pointer. (False)

9. The '*' operator is used to dereference a pointer. (True)

10. Arrays in C are zero-indexed. (True)

11. The size of an array must be a constant expression. (True)

12. Functions in C can return multiple values. (False)

13. Recursion occurs when a function calls itself. (True)

14. The base case in recursion prevents infinite recursion. (True)

15. Merge Sort is a divide-and-conquer algorithm. (True)

16. Quick Sort always chooses the middle element as pivot. (False)

17. In Merge Sort, the array is split into halves recursively. (True)

18. Quick Sort has worst-case time complexity of O(n log n). (False)

19. Pointers can be used to dynamically allocate memory. (True)

20. The 'malloc' function returns a void pointer. (True)

21. Memory allocated with malloc must be freed with free(). (True)

22. Dangling pointers are safe to use. (False)

23. Trees are linear data structures. (False)

24. Binary Search Tree has nodes arranged in sorted order. (True)

25. Graphs can be cyclic or acyclic. (True)

26. A directed graph has edges with direction. (True)

27. DFS uses a stack internally or via recursion. (True)

28. BFS uses a queue to explore nodes level by level. (True)

29. The 'struct' keyword is used to define structures in C. (True)

30. A struct can contain variables of different data types. (True)

31. The '->' operator is used to access members of a struct pointer. (True)

32. A union shares memory among all its members. (True)

33. Global variables are accessible from any function in the program. (True)

34. Local variables are declared outside of functions. (False)

35. The 'const' keyword makes a variable immutable. (True)

36. The 'break' statement can exit loops and switch statements. (True)

37. The 'continue' statement skips the current iteration of a loop. (True)

38. The 'goto' statement improves code readability. (False)

39. Memory model in C includes stack, heap, and static areas. (True)

40. Stack memory is used for function calls and local variables. (True)

41. Heap memory is automatically managed in C. (False)

42. The 'sizeof' operator returns the number of bytes of a variable. (True)

43. A NULL pointer points to a valid memory location. (False)

44. Double pointers are used for pointer to pointer variables. (True)

45. Recursion is memory efficient compared to iteration. (False)

46. The preorder traversal visits root, left, then right. (True)

47. Inorder traversal of BST gives sorted order. (True)

48. Postorder traversal visits children before root. (True)

49. Graphs can be represented using adjacency matrices or lists. (True)

50. A cycle in an undirected graph can be detected using DFS. (True)

51. The 'typedef' keyword creates alias names for data types. (True)