

1. **Which of the following is not a valid C variable name?**
  - a) int number;
  - b) float rate;
  - c) int variable\_count;
  - d) int \$main;
2. **What is the size of an int data type in C (on a typical 32-bit system)?**
  - a) 2 bytes
  - b) 4 bytes
  - c) 8 bytes
  - d) Depends on the compiler
3. **Which operator is used to get the memory address of a variable?**
  - a) \*
  - b) &
  - c) ^
  - d) ->
4. **What is the output of the following code snippet?**

```
#include <stdio.h>
int main() {
    printf("%d", sizeof(char));
    return 0;
}
```

- a) 1
  - b) 2
  - c) 4
  - d) Implementation defined
5. **Which keyword is used to prevent any changes in the variable within a C program?**
  - a) static
  - b) final
  - c) const
  - d) volatile
6. **What will be the output of the code below?**

```
#include <stdio.h>
int main() {
    int x = 10;
    printf("%d %d\n", x, x++);
    return 0;
}
```

- a) 10 10
  - b) 11 10
  - c) 10 11
  - d) Output is not defined

7. **How do you properly declare a pointer to an integer?**
- a) `int ptr;`
  - b) `int *ptr;`
  - c) `*int ptr;`
  - d) `ptr int;`
8. **The `break` statement is used to exit from a \_\_\_\_\_**
- a) Function
  - b) Program
  - c) Loop or switch statement
  - d) Header file
9. **Which function is used to dynamically allocate memory in C?**
- a) `alloc()`
  - b) `mem_alloc()`
  - c) `malloc()`
  - d) `new()`
10. **What is the purpose of the `\0` character?**
- a) It represents a tab space.
  - b) It is the null character, used to terminate strings.
  - c) It represents a new line.
  - d) It is an invalid character.
11. **Which of the following is the correct way to open a file named "test.txt" for writing?**
- a) `fopen("test.txt", "w");`
  - b) `fopen("test.txt", "write");`
  - c) `open("test.txt", "w");`
  - d) `file_open("test.txt", "write");`
12. **What does the void return type in a function indicate?**
- a) The function returns a NULL value.
  - b) The function returns nothing.
  - c) The function can return any data type.
  - d) It is a syntax error.
13. **What is the output of `3 | 5` in C? (Bitwise OR)**
- a) 1
  - b) 3
  - c) 5
  - d) 7
14. **A do-while loop is guaranteed to execute at least how many times?**
- a) 0
  - b) 1
  - c) 2
  - d) Infinitely

15. Which header file is required to use functions like strcpy() and strlen()?

- a) stdio.h
- b) stdlib.h
- c) string.h
- d) math.h

16. If int a = 5, b = 2;, what is the value of (float)a / b?

- a) 2
- b) 2.000000
- c) 2.500000
- d) 3

17. Which of the following is a storage class specifier?

- a) volatile
- b) struct
- c) extern
- d) union

18. What is the correct syntax for a for loop?

- a) for (initialization; condition; increment)
- b) for (initialization, condition, increment)
- c) for {initialization; condition; increment}
- d) for (condition; initialization; increment)

19. The -> operator is used to access members of a structure via a \_\_\_\_\_

- a) Variable of the structure type
- b) Pointer to the structure
- c) Function
- d) Header file

20. What is calloc() used for?

- a) To allocate and initialize memory to zero.
- b) To de-allocate memory.
- c) To re-allocate memory.
- d) To copy memory blocks.