

Multiple choice questions. Each question is worth 3 points.

- 1) Which one is not the part of compilation system?
 - a) Debugger
 - b) Compiler
 - c) Assembler
 - d) Linker
- 2) Which of the following statement is **not True** about the pointers?
 - a) To reach the memory location variables, arrays...etc use ampersand (&) operator
 - b) *a will give the address of the int a
 - c) It is possible to create a pointer of pointer
 - d) The * and & cancel each other when used together
- 3) Which of the following statement is **True** about the memory blocks?
 - a) The stack segment is used to store the program code
 - b) The code segment is used to store global variables
 - c) The heap segment is used for dynamic memory allocation
 - d) The data segment is used to store the function's data such as local variables
- 4) The role of the operating system is to
 - a) Exploits the hardware resources of one or more processors
 - b) Manages secondary memory and I/O devices
 - c) Provides a set of services to system users
 - d) All of the above
- 5) The _____ is the heart of the operating system. It interacts with the hardware and most of the tasks like memory management, task scheduling, and file management
 - a) Bash
 - b) Shell
 - c) Kernel
 - d) Compiler

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- 6) Which of the following is correct about Unix/Linux file?
- a) Unix files are ordered in an array structure
 - b) USB disk is considered as a file in Unix
 - c) Unix file names are case in-sensitive
 - d) The root user's home directory is the top-level directory in Unix
- 7) Which of the following commands can be used to change default permissions for files and directories at the time of the creation?
- a) lseek
 - b) change
 - c) chperm
 - d) chmod
- 8) Which of the following statements is **not True**?
- a) The ~ character alone denotes the root of the filesystem tree
 - b) All data organized into files
 - c) All files organized into directories
 - d) Each file is uniquely identified by the inode
- 9) _____ is a non-negative integer number that uniquely identifies an open file in Unix
- a) Permission Mode
 - b) File Descriptor
 - c) struct stat
 - d) Buffer
- 10) Which of the following describes the **directory permission** below
- Owner: read write execute permission
Group: read permission
World: execute permission
- a) drwxr----x
 - b) -rwxr-x--x
 - c) drwxr-x--x
 - d) rwxr--wx

11) Which command can be used to create an empty text file if it does not exist?

- a) touch
- b) makedir
- c) head
- d) cat

12)

```
int i;  
double d;
```

Which of the following is True about $d=d+i$?

- a) d will be converted to int
- b) The result will be truncated
- c) i will be converted to double
- d) This operation can't be performed

13) Which of the following is an invalid constant used in fseek() function as 'whence' reference

- a) SEEK_CUR
- b) SEEK_SET
- c) SEEK_BEG
- d) SEEK_END

14) Which of the following operator can be used to access the value at address stored in a pointer variable?

- a) ||
- b) >>
- c) &&
- d) *

15) What is the type of the read function's return value?

- a) String
- b) Pointer
- c) Boolean
- d) int

16) Which of the following is True about the loops in C Language?

- a) for loop is faster than do-while loop
- b) do-while loop is always executed at least once
- c) the continue statement can't be used in do-while loop
- d) while loop is always executed at least once

17) In _____ Memory Allocation, the memory is allocated from the stack.

- a) Dynamic
- b) Bash
- c) Static
- d) Symbolic

18) What will be the output of the following program?

```
int main()
{
    int x, y = 5, z = 15;
    x = y == z;
    printf("%d", x);
    return 0;
}
```

- a) Runtime Error
- b) 5
- c) 15
- d) 0

19) What will be the output of the following program?

```
int main()
{
    int i = 5, j = 10, k = 15;
    printf("%d ", sizeof(k / i + j));
    return 0;
}
```

- a) 1
- b) 15
- c) 13
- d) 4

20) What will be the output of the following program?

```
int main()
{
    const int i = 0;
    printf("%d\n", i++);
    return 0;
}
```

- a) 0
- b) 1
- c) -1
- d) Return Error

21) Which standard library includes the printf() and scanf() functions?

- a. <time.h>
- b. <stdlib.h>
- c. <stdio.h>
- d. <printer.h>

22) What will be the output of the following program?

```
int main()
{
    int i = 1;
    while( i++<=5 )
        printf("%d ",i++);
}
```

- a) 1 3 5
- b) 2 4
- c) 2 4 6
- d) 2

23) What will be the output of the following program?

```
int main()
{
    int a = 4, b, c;
    b = --a; 
    c = a--; 
    printf("%d %d %d",a,b,c);
    return 0;
}
```

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

24) What will be the output of the following program?

```
int main()
{
    int maxV=100;
    int minV=10;
    int avgV;
    avgV = maxV + minV / 2;
    printf("%d",avgV);
}
```

- a) 55
- b) 60
- c) 105
- d) Return Error

25) What will be the output of the following program?

```
int main () {
    float f = 9.45;
    int i = f;      i = 9
    i += 0.55;     i = 9 + 0.55 = 9
    f = i;          f = 9.0
    printf("%f", f);
}
```

- a) 9.0
- b) 10.0
- c) 9.55
- d) 11

26) What is the correct format specifier to print characters?

- a) %d
- b) %c
- c) %char
- d) "char"

27) Between gets() and fgets(), which is the safer function?

- a) gets()
- b) fgets()
- c) They are equally safe
- d) They are equally unsafe

28) Which method is used to convert an integer to a char/string data type?

- a) atoi
- b) itoa
- c) itos
- d) int2str

29) Which of the following is the file types in Unix/Linux?

- a) Directory files
- b) Image files
- c) Programming files
- d) Log files

30) How to define a constant integer in C?

- a) constant int a = 10;
- b) const int a=10;
- c) c int a=10;
- d) const integer a=10;

True/False Questions. Each question is worth 1 point.

Statement	True	False
31) The size of a char pointer is equal to the size of an integer pointer.	✓	
32) int a[6][5]; statement will create an array with 6 columns and 5 rows		
33) C programming language is an Object-Oriented Language		
34) gcc is an interpretation system	✓	
35) lstat is a system call that is used to change the location of the read/write pointer of a file descriptor.		
36) Make recompiles all source files all the time to make sure the latest changes implemented correctly.	✓	
37) Members of a structure are stored at different addresses, while the members of a union are stored at the same address.	✓	
38) Assembly is the only language that we can create a system call.		
39) A preprocessor command makes your code compile faster.	✓	
40) A compiler converts a high-level language to executable machine code.	✓	
41) A library is a source file that contains ready-made functions.	✓	
42) C functions cannot call themselves.	✓	
43) A struct is a user defined data type.		✓
44) A union is a user defined data type.		
45) Converting a variable from an int to a float will never affect its value.		✓

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46) Which of the following code allocate memory space from the heap?

- a) `malloc(100*sizeof(int))`
- b) `int a[100]`
- c) `heap int a[100]`
- d) `int *a[100]`

47) What is the result of "1|2|4" in C?

- a) 1
- b) 0
- c) 124
- d) 7

48) What are the integer values corresponding to the standard input (stdin), standard output (stdout), and standard error (stderr) respectively?

- a) -1 -2 -3
- b) 1 2 3
- c) 1 3 2
- d) 0 1 2

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49) What will the following program return?

```
int add1(int n) {  
    return n + 1;  
}  
  
int main() {  
    int n = 5;  
    add1(n);  
    add1(n);  
    return n;  
}
```

- a) 5
- b) 6
- c) 7
- d) Compiler Error

50) What will be the output of the following program?

```
int main()  
{  
    int a = 15, b = 25;  
    a = b++ + a++; 25+15= 40  
    b = ++b + ++a; 26+16= 42  
    printf("%d %d \n", a, b);  
    return 0;  
}
```

$$\begin{aligned}b &= 26 \\a &= 16\end{aligned}$$

- a) 42 66
- b) 40 68
- c) 41 68
- d) 43 69

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51) How many times the given below program will print "CS332"?

```
#include <stdio.h>

int main()

{ printf("CS332");

main();

return 0;

}
```

- a) Unlimited times
- b) None
- c) 332 times
- d) Till stack run over

52) _____ keeps on reading until it sees a newline character. Thus, it is sensitive to Buffer Overflow attacks.

- a) fscanf
- b) fgets
- c) fopen
- d) gets