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############## COP & OS ##############

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1. Identify the incorrect statement about compilation and execution of java programs

1. javac helps in compiling the java program and creates the .class files
2. java runs the programs using the bytecode in .class files
**3. java runs the programs using the source code in .java files
4. javac is in the JDK package and java is in the JRE packag

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2. What command is used to save the standard output in a file, as well as display it on the terminal?

Answers
**1. tee
2. grep
3. cat
4. more

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3. Which command is used to change the I/O characteristics of the terminal?

Answers
1. Ctty
2. Ptty
3**. Stty
4. Tty

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4. Which Linux command list the content of all sub directory?

Answers
1. ls ~
**2. ls * /
3. ls /
4. ls ../

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5. What will be the output of the following Java code?

```
1.    class array_output
2.    {
3.        public static void main(String args[])
4.        {
5.          int array_variable[][] = {{ 1, 2, 3}, { 4 , 5, 6}, { 7, 8, 9}};
```

```
6.            int sum = 0;
7.            for (int i = 0; i < 3; ++i)
8.                for (int j = 0; j <  3 ; ++j)
9.                    sum = sum + array_variable[i][j];
10.            System.out.print(sum / 5);
11.        }
12.    }
```

Answers
1. 8
**2. 9
3. 10
4. 11

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6. How many constructors in the String class?

Answers
1. 1
2. 2
**3. 13
4. 11

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7. What will be the output of below statements?

```
String s = "Java String Quiz";
System.out.println(s.charAt(s.toUpperCase().length()));
```

1. Convert “Z” to int 90 and prints “90”
**2. Runtime Exception
3. Prints “z”
4. Prints “Z”

8. What will be the output of the following class?

```
class C
 {
 public static void main(String[] args)
 {
 String s1 = "Hello";
 String s2="India";
 String s3=s1+s2;
 String s4=s1.concat(s2);
 System.out.println(s3==s4);
 System.out.println(s3.equals(s4));
}
}
```

Answer
1. true, true
2. true, false
**3. false, true
4. false, false

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9. Which component is responsible for optimizing byte-codes?

Answers
1. JVM
2. JDK
**3. JIT
4. JRE

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10. Which of these cannot be declared static?

Answers
1. class
**2. object
3. variable
4. method

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11. Which of the following statements are incorrect?

Answers
1. static methods can call other static methods only
2. static methods must only access static data
3. static methods can not refer to this or super in any way
**4. when object of class is declared, each object contains its own copy of static variables

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12. What will be the output of the following Java program?

```
1.    class access
2.    {
3.        public int x;
4.         static int y;
5.        void cal(int a, int b)
6.        {
7.            x +=  a ;
8.            y +=  b;
9.        }
```

```
10.    }
11.    class static_specifier
12.    {
13.        public static void main(String args[])
14.        {
15.            access obj1 = new access();
16.            access obj2 = new access();
17.            obj1.x = 0;
18.            obj1.y = 0;
19.            obj1.cal(1, 2);
20.            obj2.x = 0;
21.            obj2.cal(2, 3);
22.            System.out.println(obj1.x + " " + obj2.y);
23.        }
24.   }
```

Answers
1. 1 2
2. 2 3
3. 3 2
**4. 1 5

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13. When invoking a method with an object argument, _____ is passed.

Answers
1. Athe contents of the object
2. a copy of the object
**3. the reference of the object
4. the object is copied, then the reference of the copied object

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14. Choose the correct answer.

Answers
1. Recursion is always better than iteration.
**2. Recursion uses more memory compared to iteration.
3. Recursion uses less memory compared to iteration.
4. Iterative function is always better and simpler to write than recursion.

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15. What will be the output of the following program?

```
class RecursiveFor
{
    public static void main(String[] args)
    {
        int out = 15;
```

```
        for (int i = 4; i < 6; i++)
        {
            for (int j = 7; j >= 5; j--)
            {
                if (i == j) continue;
                if (i > j)
                {
                    out += main(i, j);
                }
                else
                {
                    out += main(j, i);
                }
            }
        }
        System.out.println("out = " + out);
    }


    private static int main(int a, int b)
    {
        if (a + b == 0)
        {
            return 2;
        }
        return a + main(a - 1, b);
    }
}
```

Answers
1. out = 78
**2. out = 100
3. out = 80
4. Compilation Error

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16. What is the right output of this program ?

```
public class BitwiseNotOperator{
   public static void main(String[] args)
     {

      int i = 50;
      System.out.print(~i);
      System.out.print(",");
      System.out.print(~--i);
      System.out.print(",");
      System.out.print(~++i);
```

```
   }
}
```

Answers
1. -50,-49,-50
2. -51,-51,-52
3. -49,-50,-51
**4. -51,-50,-51

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17. The operating system and the other processes are protected from being modified by an already running process because _____

Answers
1. They are in different memory spaces
2. They are in different logical addresses
3. They have a protection algorithm
**4. Every address generated by the CPU is being checked against the relocation and limit registers

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18. Where are placed the list of processes that are prepared to be executed and waiting?

Answers
1. Job queue
**2. Ready queue
3. Execution queue
4. Process queue

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19. By shell into the parameter, __ reads the first argument

Answers
**1. $1
2. $3
3. $$
4. 1$

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20. The program is interrupted by_____ command in appropriate way.

Answers
1. kill

2. SIGKILL
**3. trap
4. INT

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21. Which system call can be used by a parent process to determine the termination of child process?

Answers
**1. wait()
2. exit()
3. fork()
4. get()

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22. The entry of all the PCBs of the current processes is in _____

Answers
1. Process Register
2. Program Counter
**3. Process Table
4. Process Unit

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23. If one thread opens a file with read privileges then:
Answers
1. other threads in the another process can also read from that file
**2. other threads in the same process can also read from that file
3. any other thread can not read from that file
4. all of the mentioned

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24. A computer system supports 32-bit virtual addresses as well as 32-bit physical addresses. Since the virtual address space is of the same size as the physical address space, the operating system designers decide to get rid of the virtual memory entirely. Which one of the following is true?

Answers
1. Efficient implementation of multi-user support is no longer possible
2. The processor cache organization can be made more efficient now
**3. Hardware support for memory management is no longer needed
4. CPU scheduling can be made more efficient now

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25. In Process Address Space, The variable names, constants, and instruction labels

are the basic elements of _____.

Answers
**1. Symbolic addresses
2. Relative addresses
3. Physical addresses
4. None of the above

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26. In which type of Fragmentation, Memory block assigned to process is bigger. Some portion of memory is left unused, as it cannot be used by another process.

Answers
1. External fragmentation
**2. Internal fragmentation
3. Both of the above
4. None of the above

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27. A swapper manipulates _____ whereas the pager is concerned with individual _____ of a process.

Answers
1. the entire process, parts
2. all the pages of a process, segments
**3. the entire process, pages
4. none of the mentioned

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28. Segment replacement algorithms are more complex than page replacement algorithms because _____
Answers
1. Segments are better than pages
2. Pages are better than segments
**3. Segments have variable sizes
4. Segments have fixed sizes

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29. Command used to check shared memory is

Answers
1. ipcs
**2. ipcs -mS
3. ipcs -s
4. ipcs -q

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30. One process requires M resource to complete a job. What should be the minimum number of resources available for N processes so that at least one process can continue to execute without blocking/waiting?

Answers
1. M * N
2. M * N – 1
3. M * N + 1
**4. M

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31. Which of the following are the major disadvantages of requesting all resources while preventing deadlock?
i) delay process initiation
ii) future resources requirements must be known
iii) subject to cyclic restart

Answers
**1. i and ii only
2. ii and iii only
3. i and iii only
4. i, ii and iii

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32. Which of the following are the thread synchronization primitives supported by Solaris
  i) Mutual exclusion
 ii) Semaphores
iii) Signals
iv) Condition variables

Answers
1. i, ii and iii only
2. ii, iii and iv only
**3. i, ii and iv only
4. All i, ii, iii and iv

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33. In which of the following Algorithm where the reference bit is used to determine whether a page has been recently referenced, and some page that has not been recently referenced is replaced?

Answers
1. LRU Page replacement Algorithm
2. FIFO page replacement Algorithm

3. Optimal page replacement algorithm
**4. NRU Page replacement algorithm

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34. In which of the following Page replacement Policy, at every page fault the page replacement policy replaces the page that was loaded into memory earlier than any other page of the process?

Answers
1. LRU Page replacement Algorithm
**2. FIFO page replacement Algorithm
3. Optimal page replacement algorithm
4. NRU Page replacement algorithm

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35. In UNIX, the set of masked signals can be set or cleared using the _____ function.

Answers
**1. sigprocmask
2. sigmask
3. sigmaskproc
4. sigproc

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36. In most cases, if a process is sent a signal while it is executing a system call :

Answers
1. the system call will continue execution and the signal will be ignored completely
2. the system call is interrupted by the signal, and the signal handler comes in
**3. the signal has no effect until the system call completes
4. none of the mentioned

==========

37. Both processes (the parent and the child) continue execution at the instruction after the fork(), with one difference: the return code for the fork() is _____ for the new (child) process, whereas the _____ process identifier of the child is returned to the parent.

Answers
1. Negative integer, Zero
2. Zero, Negative integer
3. Nonzero integer, Zero
**4. Zero, nonzero integer

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38. When the operating system has performed a_____ operation, it has two choices for selecting a process either admitting a newly created process or bring in a previously suspended process.

Answers
1. Swapping-in
**2. Swapping-out
3. Blocked-in
4. Blocked-out

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39. There are the following statements that are given below, which of them are correct about Regular expressions in the Linux operating system?

A. The regular expressions are strings that are used for pattern matching in some Linux commands.
B. The regular expressions are also known as a regex.
C. The regular expressions use some characters that each has a different meaning.
D. Regular expressions can only be used in the Linux commands.

Answers
1. A and B
2. C and D
**3. A, B, and C
4. A, B, C, and D

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40. Which of the following command is used to display only directories that exist in the current directory?

Answers
**1. ls –l | grep "^d"
2. ls | grep "^d"
3. ls –l | grep "#d"
4. ls –l | grep "*d"

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############## End ##############
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