

Q.1. What is the output of the below code snippet:

```
int marks = 29;
if ( marks > 29 );
    System.out.println("PASS");
System.out.println("RANK");
```

- RANK
- PASS
- PASS RANK
- Compiler error

Q.2. What is the output of the below code snippet:

```
int a = 4, b = 6, c = 8;
boolean d = a > 5 && b > 5 && c++ < 10;
System.out.println(c);
```

- 8
- 9
- 10
- Compiler error

Q.3. What is the output of the below code snippet:

```
int points = 6;
switch (points) {
case 6: ;
case 7: System.out.println("Seven"); break;
case 8: ;
case 9: System.out.println("Nine"); break;
case 10: System.out.println("Ten"); break;
default: System.out.println("None");
}
```

- Seven
- Nine
- Ten
- None

Q.4. What is the output of the below code snippet:

```
class selection_statements
{
    public static void main(String args[])
    {
        int var1 = 5;
        int var2 = 6;
        if ((var2 = 1) == var1)
            System.out.print(var2);
        else
            System.out.print(++var2);
    }
}
```

- 1
- 2
- 3
- 4

Q.5. What is the output of the below code snippet:

```
public class Test{  
    public static void main(String args[]){  
        int[] x = { 120, 200, 016 };  
        for(int i = 0; i < x.length; i++)  
            System.out.println(x[i] + " ");  
    }  
}
```

- 120 200 16
- 120 200 14
- 120 200 016
- 016 is a compile error. It should be written as 16.

Q.6. When an array is passed to a method, what does the method receive?

- The reference of the array
- A copy of the array
- Length of the array
- Copy of first element

Q.7. To copy the content of a filename1.txt to filename2.txt in the same directory, enter

- copy filename1.txt filename2.txt
- cp filename1.txt filename2.txt
- cp filename1.txt >> filename2.txt
- cp filename1.txt << filename2.txt

Q.8. Process control block has _____

- Process State
- Process Number
- Program Counter
- All of the above

Q.9. In linux which command will give read, write, and execute permissions for everyone?

- chmod all foldername
- chmod 644 foldername
- chmod 700 filename

chmod 777 filename

Q.10. In bash script to compare if one number is greater than or equal to a number which expression will be used?

- [n1 -ge n2]
- [n1 -gt n2]
- [n1 > n2]
- All of the above

Q.11. If a page number is not found in the TLB, then it is known as a _____

- TLB miss
- Buffer miss
- TLB hit
- All of the mentioned

Q.12. Which signal is used for immediate termination of a process?

- SIGTERM
- SIGKILL
- SIGINT
- None of the above

Q.13. Consider the set of 4 processes whose arrival time and burst time are given below-

Process	Arrival Time	Burst Time
P0	0	10
P1	1	6
P2	3	2
P3	5	4

If the CPU scheduling policy is FCFS, calculate the average waiting time and average turn around time.

- 14.25, 8.75
- 10, 7
- 22.5, 12.5
- 8.7, 6.7

Q.14. Each entry in a translation lookaside buffer (TLB) consists of _____

- key
- value

bit value

constant

Q.15. Physical memory is broken into fixed-sized blocks called _____

pages

frames

backing store

none of the mentioned

Q.16. The technique that increases the system's productivity

multiprogramming

multitasking

multitasking

single-programming

Q.17. What is Interprocess communication?

allows processes to communicate and synchronize their actions when using the same address space

allows processes to communicate and synchronize their actions

allows the processes to only synchronize their actions without communication

none of the mentioned

Q.18. The following C program is exected on a Unix/Linux system :

```
int main(){
    int i;
    for( i = 0 ; i < 10 ; i++ ) {
        if( i % 2 == 0 ) fork();
    }
    return 0;
}
```

The total number of child processes created is _____

0

31

10

99

Q.19. In which of the following directory does the configuration files are present?

/bin/

/root/

/etc/

/dev/

Q.20. To display all running processes for all users on your machine, including their usernames, and to show processes not attached to your terminal, which command is used?

- ps
- ls -la
- ps aux
- ps -a

Q.21. What is the entry point of a program in Java?

- main() method
- The first line of code
- Last line of code
- main class

Q.22. Number of levels of page table = 1, TLB access time = 10ns, Main memory access time = 50ns, What is the effective memory access time (in ns) if the TLB hit ratio is 90% and there is no page fault ?

- 54
- 60
- 65
- 75

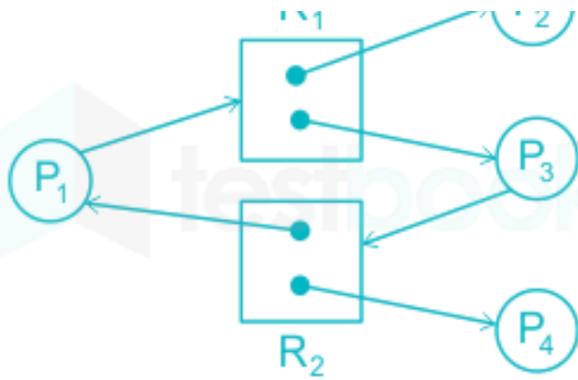
Q.23. In _____ memory binding are changed in such manner that all free memory area can be merged to form a single free memory.

- Memory Paging
- Memory Swapping
- Memory Compaction
- Memory Segmentation

Q.24. Which set of necessary conditions causes a 'deadlock' in an operating system?

- Blocking send, race condition, hold and wait and RAM overflow
- Blocking send, race condition, cache incoherency and RAM overflow
- Mutual exclusion, no pre-emption, hold and wait, and circular wait
- Mutual exclusion, race condition, cache incoherency and RAM overflow

Q.25. Given a set of four, two resources with two units, each. The following resources allocation graph exists at a point in time:



The graph indicates:

- Cycle and deadlock
- No cycle but deadlock
- Neither cycle nor deadlock
- Cycle but no deadlock

Q.26. Which of these is a type of variable in Java?

- Instance Variable
- Local Variable
- Static Variable
- All of these

Q.27. A process whose parent process no more exists i.e. either finished or terminated without waiting for its child process to terminate is called an _____

- Child process
- Zombie process
- Daemon process
- Orphan process

Q.28. Most operating systems (including UNIX, Linux and Windows) identify processes according to unique _____

- program counter
- process state
- process number
- process identifier

Q.29. Memory fragmentation can be defined as

- The existence of usable area in the memory of computer system
- The existence of unusable area in the memory of computer system
- The existence of unreachable area in the memory of computer system
- None of the above

Q.30. Process A is waiting for the result produced by process B. Also, process A has higher priority than B. So the OS prefers process A and refuses to give CPU time to B. Therefore, both A and B are stuck. What is this scenario called?

- Starvation
- Deadlock
- Livelock
- Cycle

Q.31. The primary difference between user-level threads and kernel threads is _____

- User level threads do not use OS services via system calls, whereas kernel threads require system calls.
- User level threads are independent of each other, whereas kernel threads can write into each other's memory space.
- User level threads require memory management where kernel threads do not.
- None of above.

Q.32. Scheduling of threads are done by:

- Input
- Output
- Operating System
- Main Memory

Q.33. _____ refer to the integer variables that are primarily used to solve the critical section problem via combining two of the atomic procedures, wait and signal, for the process synchronization.

- Mutex
- Signals
- Semaphores
- Threads

Q.34. A memory page containing a heavily used variable that was initialized very early and is in constant use is removed, then the page replacement algorithm used is _____

- LRU
- LFU
- FIFO
- None of the mentioned

Q.35. Consider the page reference string 7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 3 with 4

page frames. Find out the number of page faults using LRU (Least recently used) Page Replacement Algorithm.

- 10
- 8
- 6
- 7

Q.36. Multithreading on a multi - CPU machine _____

- decreases concurrency
- increases concurrency
- doesn't affect the concurrency
- can increase or decrease the concurrency

Q.37. What is interprocess communication?

- communication within the process
- communication between two process
- communication between two threads of same process
- none of the mentioned

Q.38. A process terminates when it finishes executing its final statement and asks the operating system to delete it by using the _____ system call.

- wait()
- exit()
- fork()
- exit()

Q.39. Calculate the number of bits required in the address for memory having size of 16 GB. Assume the memory is 4-byte addressable.

- 32 bits
- 16 bits
- 128 bits
- 64 bits

Q.40. What is Portability offered by Java language?

- Small code size easy to carry occupying less disk space
- Generating suitable Byte Code for each machine by the Compiler
-
- Ability to run the Byte on different machines producing the same behaviour and output
- Java does not actually provide portability

Submit