

BCA II year  
Operating Systems  
Class Test - I (Solutions), 17-10-2023

Student's name: .....

Duration 45 Mts

Max. Marks 39

**Instructions:**

- (i) There are total 15 questions, each with 4 answers- A, B, C, D. Tick the correct/best choice in each.
- (iii) Each scheduling algorithm questions is 5 marks, other questions are 2 marks each.
- (iii) Question no. 16 is for statistics (survey) only and has no marks.
- (iv) Bold faced options are correct answers.

**Questions:**

1. Information about each process is stored in a:  
A) Stack memory  
B) Global memory  
**C) Process control block**  
D) Data block
2. Which of the following statement best explains an *operating system process*?  
A) It is a program  
B) It is a program in execution  
**C) It is an instance of program in execution**  
D) it is a program that uses system calls.
3. In Linux, the permissions of a file can be set to:  
A) Read only      B) Write only  
C) Execute only    **D) All these**
4. In which of the following policies does context switching never take place?  
A) round robin    B) shortest job first  
C) pre-emptive    **D) first-come-first-served**

Consider the table for CPU scheduling (next three questions):

| Process | Arrives at time<br>(in ms) | Total CPU time<br>needed (ms) | Priority |
|---------|----------------------------|-------------------------------|----------|
| $p_1$   | 0                          | 10                            | 5        |
| $p_2$   | 1                          | 5                             | 2        |
| $p_3$   | 2                          | 3                             | 1        |
| $p_4$   | 5                          | 20                            | 4        |
| $p_5$   | 10                         | 2                             | 3        |

5. If the CPU scheduling policy is FCFS (first come first served, and priority not used), the average waiting time will be:  
**A) 12.6 msec**    B) 8.2 msec    C) 16.5 msec    D) None

6. If CPU scheduling policy is SJF (shortest job first, priority not used) with pre-emption, the average waiting time will be:  
A) 8.2 msec B) 14 msec C) 4.4 msec **D) none of above**
7. If the CPU scheduling policy is priority scheduling (small priority means preference) with pre-emption, the average waiting time will be:  
A) 3.8 msec B) 1.4 msec C) 5.8 msec **D) none of above**
8. When the subroutine is called, the address of the instruction following the CALL instruction is stored in the:  
A) accumulator B) program counter  
C) stack pointer **D) stack**
9. If two threads are running in a single core CPU, then we call it:  
**A) Concurrent processing**  
B) Parallel processing  
C) Concurrent and parallel processing  
D) Parallel but not concurrent
10. Which is correct “file copy” command in Unix/Linux?  
A) \$ copy file1 file2  
**B) \$ cp file1 file2**  
C) \$ mv file1 file2  
D) \$ cat file file2
11. The Unix/Linux OS command “\$ wc file1” does the following job:  
A) word count in file1  
B) word count and line count in file1  
**C) word count line count and character count in file1**  
D) word count and character count in file1
12. A multiprogramming OS has:  
A) More than one process running  
B) More than one threads running  
C) More than one programs running  
**D) More than one programs in memory.**
13. In time-sharing system, time of following is shared:  
A) Memory **B) CPU** C) User D) IO
14. A process can have maximum so many states:  
A) 1 B) 2 **C) 3** D) 4
15. Shell of an Unix/Linux is:  
**A) Command interpreter**  
B) Operating system  
C) System Software  
**D) Application software**