

Operating Systems

Intro & Background

DPP 01

[MCQ]

1. Consider the following statements:

- (i) Operating system implementation has architectural constraints.
- (ii) Operating system is a set of utilities.

Which of the following is true?

- (a) Only (i) is correct.
- (b) Only (ii) is correct.
- (c) Both (i) and (ii) are correct.
- (d) Neither (i) nor (ii) are correct

[MCQ]

2. Operating system working on strict deadlines are _____.

- (a) Time-sharing OS.
- (b) Real-time OS.
- (c) Network operating system.
- (d) Centralized OS.

[MCQ]

3. What is/must be the primary goal for hard real time operating system?

- (a) Robustness.
- (b) Reliability.
- (c) Efficiency.
- (d) Convenience.

[MSQ]

4. Which of the following statement is/are correct?

- (a) During Booting, OS is loaded into disk from main memory.
- (b) The area of memory where OS is stored, is known as system area.
- (c) Uni-programming can load and execute a single program in memory.
- (d) Uni-programming suffers from idleness of CPU.

[MCQ]

5. Throughput is _____.

- (a) Executing multiple programs in memory.
- (b) Total number of programs completed per unit time.
- (c) Total number of programs loaded into main memory.
- (d) None of the above.

[MCQ]

6. Pre-emptive processes have _____.

- (a) Forceful deallocation.
- (b) Better response time.
- (c) Both (a) and (b).
- (d) None of the above.

[MCQ]

7. Consider the following statements:

- (i) Non-preemptive process can lead to starvation.
- (ii) Non-preemptive process has good response time.
- (iii) Non-preemptive process can release CPU voluntarily.

Which of the following is correct?

- (a) (i) and (ii) are correct.
- (b) (ii) and (iii) are correct.
- (c) (i) and (iii) are correct.
- (d) All (i), (ii) and (iii) are correct.

[MSQ]

8. Function of operating system includes _____.

- (a) Resource Management.
- (b) Reliability.
- (c) Security.
- (d) Control over system performance.

Answer Key

- | | |
|--------------|--------------|
| 1. (c) | 5. (b) |
| 2. (b) | 6. (c) |
| 3. (c) | 7. (c) |
| 4. (b, c, d) | 8. (a, c, d) |



Hints & Solutions

1. (c)
Operating system is implemented purely for a particular architecture. For example, Smartphones OS cannot be implemented over a desktop. Operating system is a set of utilities which simplifies application development.
So, option (c) is correct.
2. (b)
Real-time OS operates on strict deadlines and have time constraints. For example:
Fire alarm system, heart pacemaker, air traffic control system, Missile control, etc.
3. (c)
Efficiency is the primary goal of real time OS, if system is little bit inefficient it can cause heavy loss and destruction.
4. (b, c, d)
During Booting, OS is loaded into main memory from the disk, and the area where OS is stored in main memory is known as system area. So, option (a) is incorrect and option (b) is correct.
Uniprogramming OS has the ability to load and execute a single program in memory. so, option (c) is correct.
In Uniprogramming if one program is loaded into main memory, then no other program can be loaded and CPU can remain idle if that single process is busy in performing IO. So, option (d) is also correct.
5. (b)
Executing multiple programs in memory is multiprogramming.
So, option 'a' is incorrect.
Total number of programs/applications completed per unit is throughput.
So, option (b) is correct.
6. (c)
Pre-emptive process has forceful deallocation and it improves response time of the processes.
So, (c) is correct.
7. (c)
(i) Non-preemptive process can lead to starvation. Correct.
(ii) Non-preemptive process has good response time. Incorrect.
(iii) Non-preemptive process can release CPU voluntarily. Correct.
∴ (c) is correct option.
8. (a, c, d)
Functions of operating system include resource management, security, controlling and monitoring overall system's health to improve performance.
Whereas reliability is a goal of operating system.



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