

205



The Exam consists of 5 questions

Answer the Following Questions:

Question (1): [10 degrees]

1. Which of the following instructions should be privileged?

- a. Set value of timer
- b. Read the clock
- c. Clear memory
- d. Turn off interrupts
- e. Modify entries in device-status table
- f. Switch from user to kernel mode
- g. Access I/O device

2. What are the three major advantages of Multiprocessor systems?

Question (2): Complete the following with the suitable scientific term: [10 degrees]

1. There are two types of multiprocessing:,
2. Cash memory is useful because
3. O.S have a user interface (UI), which can take several forms:,
4. Communications between two process may be implemented via,
5. The purpose of system calls is
6. O.S processes execute and user processes execute, all these processes may execute
7. The child process return data to its parent process via the
8. The switching of CPU between different processes is called
9. The smallest sequence of programmed instructions that can be managed independently by a scheduler called
10. The criteria for the scheduling process are,,,,

Question (3): [10 degrees]

1. Explain the main differences between:
 - short-term and long-term scheduler.
 - I/O-bound process and a CPU-bound process.
 - user-level threads and kernel-level threads
2. What is the meaning of PCB? And what are its components?

Question (4): [10 degrees]

1. What are the major activities of an operating system regarding:
 - a) Process management?
 - b) Memory management?
 - c) Secondary-storage management?
 - d) File management?

Question (5): [10 degrees]

Schedule the following process into the CPU using all these scheduling Algorithms:

1- SRTF

2- Priority

Process	B.T	Arrived Time	Priority
P1	30	0.0	4
P2	18	10.0	2
P3	26	20.0	1
P4	33	30.0	3

My Best Wishes ... Dr. Wael A. Awad