**Chapter 8: Operating system support**

**MULTIPLE CHOICE**

1. The \_\_\_\_\_\_\_\_\_\_ is a program that controls the execution of application programs and acts as an interface between applications and the computer hardware.

A. job control language B. operating system

C. batch system D. nucleus

1. Facilities and services provided by the OS that assist the programmer in creating programs are in the form of \_\_\_\_\_\_\_\_\_ programs that are not actually part of the OS but are accessible through the OS.

A. utility B. multitasking

C. JCL D. logical address

1. The \_\_\_\_\_\_\_\_\_ defines the repertoire of machine language instructions that a computer can follow.

A. ABI B. API

C. HLL D. ISA

1. The \_\_\_\_\_\_\_\_\_ defines the system call interface to the operating system and the hardware resources and services available in a system through the user instruction set architecture.

A. HLL B. API

C. ABI D. ISA

1. The \_\_\_\_\_\_\_\_ gives a program access to the hardware resources and services available in a system through the user instruction set architecture supplemented with high-level language library calls.

A. JCL B. ISA

C. ABI D. API

1. A \_\_\_\_\_\_\_\_\_ system works only one program at a time.

A. batch B. uniprogramming

C. kernel D. privileged instruction

1. A \_\_\_\_\_\_\_\_\_ is a special type of programming language used to provide instructions to the monitor.

A. job control language B. multiprogram

C. kernel D. utility

1. The \_\_\_\_\_\_\_\_\_ scheduler determines which programs are admitted to the system for processing.

A. long-term B. medium-term

C. short-term D. I/O

1. The \_\_\_\_\_\_\_\_ scheduler is also known as the dispatcher.

A. long-term B. medium-term

C. short-term D. I/O

1. A \_\_\_\_\_\_\_\_\_ is an actual location in main memory.

A. logical address B. partition address

C. base address D. physical address

1. \_\_\_\_\_\_\_\_ is when the processor spends most of its time swapping pages rather than executing instructions.

A. Swapping B. Thrashing

C. Paging D. Multitasking

1. Virtual memory schemes make use of a special cache called a \_\_\_\_\_\_\_\_ for page table entries.

A. TLB B. HLL

C. VMC D. SPB

1. With \_\_\_\_\_\_\_\_\_ the virtual address is the same as the physical address.

A. unsegmented unpaged memory B. unsegmented paged memory

C. segmented unpaged memory D. segmented paged memory

1. A \_\_\_\_\_\_\_\_\_ is a collection of memory regions.

A. APX B. nucleus

C. domain D. page table

1. The OS maintains a \_\_\_\_\_\_\_\_\_\_ for each process that shows the frame location for each page of the process.

A. kernel B. page table

C. TLB D. logical address

**SHORT ANSWER**

1. The \_\_\_\_\_\_\_\_\_ is a program that manages the computer’s resources, provides services for programmers, and schedules the execution of other programs.
2. Three key interfaces in a typical computer system are: instruction set architecture, application programming interface, and \_\_\_\_\_\_\_\_\_\_\_.
3. The \_\_\_\_\_\_\_\_\_\_ , or nucleus, contains the most frequently used functions in the OS.
4. In an \_\_\_\_\_\_\_\_\_ system the user/programmer interacts directly with the computer, usually through a keyboard/display terminal to request the execution of a job or to perform a transaction.
5. A \_\_\_\_\_\_\_\_\_ system groups the user’s program with programs for other users and is submitted by a computer operator, with results being printed out for the user upon completion of the program.
6. Early computer systems presented two main problems: setup time and \_\_\_\_\_.
7. The portion of the monitor that must always be in main memory and available for execution is referred to as the \_\_\_\_\_\_\_\_\_\_.
8. The technique where memory is expanded to hold three, four, or more programs and switch among all of them is \_\_\_\_\_\_\_\_\_\_, (or multitasking).
9. In a \_\_\_\_\_\_\_\_\_ system multiple users simultaneously access the system through terminals, with the OS interleaving the execution of each user program in a short burst or quantum of computation.
10. The five defined states for a process are: new, ready, waiting, halted, and \_\_\_\_\_\_\_\_.
11. Each process is represented in the OS by a \_\_\_\_\_\_\_\_\_\_\_, which typically contains identifier, state, priority, program counter, memory pointers, context data, I/O status information, and accounting information.
12. Because a process executes only in main memory, that memory is referred to as \_\_\_\_\_\_\_\_\_\_.
13. \_\_\_\_\_\_\_\_\_\_ allows the programmer to view memory as consisting of multiple address spaces or segments.
14. When the processor executes a process it automatically converts from logical to physical address by adding the current starting location of the process, called its \_\_\_\_\_\_\_\_\_\_, to each logical address.
15. \_\_\_\_\_\_\_\_\_ paging means that each page of a process is brought in only when it is needed.