Which operating system structure(s) allow(s) direct communication among all operating system services?

○ Layered approach

○ Microkernel approach

◉ Modular approach

○ All of the above

Which of the following programs runs all the time on the computer?

○ compiler

○ assembler

○ text editor

◉ kernel

An operating system can be viewed as a resource allocator because:

○ it acts as the manager of system resources.

○ it must decide how to allocate system resources to specific programs and users.

○ it must use system resources efficiently and fairly.

○ All of the above.

Choose one answer. *

The major difficulty in designing an operating system using the layered approach is_____.

○ Appropriately defining the various layers

○ Making sure that each layer hides certain data structures, hardware, and operations from higher-level layers

○ Debugging a particular layer

○ Making sure each layer is easily converted to modules

Indicate whether each statement is True or False. *

One advantage of implementing commands through system programs is that the command interpreter program does not have to be changed for new commands to be added.

- ✓ **True**
- ○ False

Indicate whether each statement is True or False. *

Division by zero is an error that causes a software interrupt (or Trap).

- ✓ **True**
- ○ False

Indicate whether each statement is True or False. *

Every multiprogramming system is also a time-sharing system.

○ True

○ False

(handwritten Arabic annotations in red)

Choose one answer. *

_____ operating systems are designed primarily to maximize resource utilization.

○ PC

○ Handheld computer

○ Mainframe

○ Network

(handwritten Arabic annotations in red: يركزون على ال user)

Choose one answer. *

The advantage(s) of using a higher-level language for implementing operating systems is(are):

◯ The code can be written faster

◯ The code is easier to understand and debug

◯ The operating system is easier to port to other hardware

◉ All of the above

Indicate whether each statement is True or False. *

Interrupt Vector contains the addresses of all the service routines.

◉ True

◯ False

Indicate whether each statement is True or False. *

using API

Using system calls directly in your program guarantees portability of your code.

○ True

● False

Note لأن شكلي غير عن بس استخدام API كان لا. Mac os windows

Indicate whether each statement is True or False. *

The functions that make up an API typically invoke actual system calls on behalf of the application programmer.

● True

○ False

Indicate whether each statement is True or False. *

During the execution of a system call, the mode is changed from kernel mode to user mode.

◯ True

✓ False

Choose one answer. *

The three general methods used to pass system call parameters to the operating system are ___.

◯ Shared memory, message passing, or buffers

◯ Open, close, or abort

✓ Registers, memory block, or stack

◯ None of the above

Choose one answer. *

_____ is a translator between the operating system and applications that use the I/O devices that converts general I/O instructions into device specific operations:

○ Compilers.

○ The device drivers.

○ The device controller.

○ Interrupt Vector.