

1. 2016-1

Circle or cross: "T" if True – "F" if False.

- T / F** A clustered system can provide high-availability service.
- T / F** The advantages of a multiprocessor system include: increased throughput, economy of scale, and increased reliability.
- T / F** Android (Google) features middle-ware that supports (for example) Linux.
- T / F** Microsoft Windows 10 provides only a GUI (Graphical User Interface) with no CLI (Command Line Interface).
- T / F** Using the Windows Application Programming Interface (API), you can compile the same source code to run natively on either 32-bit Windows or 64-bit Windows.
- T / F** Linux does not provide any Application Programming Interface (API).
- T / F** Most modern operating systems – including Linux and Windows – have a kernel structure similar to that of a micro-kernel, but to implement that structure in the manner of a monolithic kernel.

2. 2016-2a

Circle or cross: "T" if True – "F" if False.

- T / F** An Operating System is a software that manages the computer hardware (OSCE2).
- T / F** The purpose of an Operating System is to provide an environment in which a user can execute programs in a convenient and efficient manner (OSCE2).
- T / F** There are at least three types of programs, the kernel, system programs, and application programs (OSCE2).
- T / F** Most prominent mobile Operating System features a core kernel along with middle-ware that support Data Base, Multimedia, Graphics, etc (OSCE2).
- T / F** The Interrupt is a privilege instruction.
- T / F** After interrupt, the system will be in non-privilege mode.

3. 2016-2a

Answer the following questions:

- (a) Name the three most common operating systems for personal computers!
- (b) Name the two most common operating systems for mobile devices!
- (c) A 64-bit DDR3 memory system has two transfers per cycle of a quadrupled (4x) clock signal. What is the transfer rate (in Mega-Bytes/second) if the memory clock-rate is 200MHz?
- (d) If the signal propagation is 300 000 km/s. How long (cm) is the wave-length of a 3GHz signal?

4. 2017-1

Circle or cross: "T" if True – "F" if False.

- T / F** The von Neumann architecture describes a computer architecture with parts consisting of a Central Processing Unit (CPU); a Control Unit (CU); a Memory to store both data and instructions; external Mass Storage; and Input and Output mechanisms.
- T / F** An Operating System provides protected access to shared resources (UCB162).
- T / F** A program is an instance of a process that runs (UCB162).
- T / F** AMD64 (aka x64 or x86_64) is the 64-bit version of the x86 instruction set.
- T / F** An Operation System acts as an intermediary between the computer user and the computer hardware (OSC9).
- T / F** An Operating System as resource allocator manages the execution of user programs to prevent errors and improper use of the computer (OSC9).
- T / F** Android Operating Systems includes Linux as middleware.
- T / F** "Kernel mode" is also called "Supervisor mode" whereas "User mode" is also called "Privileged mode".
- T / F** System calls provide an interface to the Application Programming Interface (API).
- T / F** API specifies a set of functions that are available to an application programmer, including the passing parameters and return values.