VauLSMorg
00 Basics - Introduction & Review1
Aneka Soal Ujian Sistem Operasi
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1. **2016-1a**

   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 Programing 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 Programing 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. **2016-1b**

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

   T / F Virtual Machines are fully isolated from one another no Virtual Machine is aware of the presence of another Virtual Machine.

   T / F With containers, a host operating system is installed on the system first, and then a container layer is installed atop the host Operating Systems.

   T / F Software as a Service (SaaS) is a software stack ready for application use via the Internet (i.e. a database server).

3. **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-were 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.

4. **2016-2b**

   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?

5. **2016-2c**

   (a) Fill this following with "ASP" (Application Software Provider) or "SaaS" (Software as a Service)

	a separate instance of the application is maintained for each business
	always Up-to-Date for the whole service
	closer to Legacy Software
	lacks scalability for the vendor
	supports multi-tenancy (multiple customers)

   (b) Fill this following with "IaaS" (Infrastructure as a Service), "PaaS" (Platform as a Service), or "SaaS" (Software as a Service)

	CRM System
	Database Server
	GMAIL
	Google Apps
	Network
	Office 365 (Microsoft)
	Servers
	Storage
	Virtual Machines
	Webserver

   (c) Fill this following with "Container", "Full Virtualization", "Hypervisor", or "Para Virtualization"

	a complete simulation of the underlying hardware
	creates and runs virtual machines
	guests run a modified operating system
	LXC
	operating-system-level virtualization

6. **2017-1a**

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.

7. **2017-1b**

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

T / F If you use services like Facebook or GMail or Twitter, then you already use the cloud system.

T / F One of the essential Cloud Computing characteristics is "On Demand Self-Service".

T / F Amazon Elastic Compute Cloud (EC2) is an Electronic Commerce / Internet-based Retailer system.

T / F Organizations today have no choices: all technology-enabled business processes will be moved to the cloud.

T / F A disadvantage of Cloud Computing is that it requires a constant network connection.

T / F OpenStack is a software platform, mostly deployed as an Infrastructure-as-a-Service (IaaS).

T / F A Hypervisor is computer software, firmware, or hardware, that creates and runs virtual machines.

T / F There are three main Cloud Computing components: grid computing, utility computing, and autonomic computing.

T / F Cloud computing is always public cloud by definition.

T / F Any conventional OS distribution can be run on top of a paravirtualizing Hypervisor.

8. **2017-2a**

(01) is a software that manages the computer hardware. Android is an open source (02) for (03) that includes a (04) kernel, (05), and key (06). A (07) is any hardware or software used to host an application or service. Anything between the kernel and user applications is considered as (08). A (09) is an abstraction in which common code providing generic functionality. (10) provide an interface to the services made available by an (11). The (12) specifies a set of functions that are available to an application programmer.

Match the number of the sentence above with these following phrases:

[ ] Application Programming Interface (API)	[ ] Applications	[ ] Linux-based
[ ] Middleware	[ ] Middleware	[ ] Mobile Devices
[ ] Operating System	[ ] Operating System	[ ] Platform
[ ] Software Framework	[ ] Software Stack	[ ] System Calls

9. **2017-2b**

- In the von Neumann architecture, the **Central Processing Unit** consists of two main parts: the (01) and the (02).
- A (03) is a collection of **instructions**, while a (04) is the actual execution of those **instructions**.
- One **Hexadecimal** digit represents (05) binary bits, whereas one **Octal** digit represents (06) binary bits.
- A (07) uses a Page Table to map (08) **numbers** of (09) **memory** into (10) **numbers** of (11) **memory**.
- The most common use of (12) is **printing**. A (13) is a component that **stores data** so future requests for that data can be served **faster**. A (14) is used **temporarily** store data while it is being moved from one place to another.
- (15) means simultaneous or concurrently execution of **multiple processes**.
- The **three-state** process model is constituted of (16), (17), and (18).
- If a process is unable to change its state **indefinitely** because the (19) requested by it are being used by another waiting process, then the system is said to be in a (20).

Match the number of the sentence above with these following phrases:

[ ] Arithmetic Logic Unit	[ ] buffer	[ ] cache	[ ] computer program
[ ] Control Unit	[ ] deadlock	[ ] four (4)	[ ] frame
[ ] Memory Management Unit	[ ] multitasking	[ ] page	[ ] physical
[ ] process	[ ] ready	[ ] resources	[ ] running
[ ] spooling	[ ] three (3)	[ ] virtual	[ ] waiting