COMSATS University Islamabad, Lahore Campus
Department of Electrical and Computer Engineering

Quiz No 1-FALL 2024

Course Title:	Operating Systems				Course Code:	CSC322	Credit Hours: 3(2,1)
Course	Eng. Ahmad Mudassir				Program Name:	BCE	
Semester:	5th	Batch:	FA22-BCE	Section:	A	Date:	16th Sept 2024
					Maximum Marks:		**20**
Student's name:					Reg. No.	CUI/	/LHR

Important Instructions / Guidelines:

- Avoid overwriting and cutting

Question 1: Define (one-liner) the following

a) Superscalar processor	That achieves parallelism in instruction execution. More than one instructions in one clock cycle through pipeling.
b) Context Switching	Saving the context or state of running process so that it can be restored later and then loading the context or state of another.
c) Multiprogramming	Multiple programs are stored in memory and each program is given a portion of the memory called process.
d) Multiprocessing	The use of two or more processing units in a single computer system.
e) Process Control Block	It is a data structure managed by OS containing process information e.g. process state, process id, scheduling info etc
f) System call	They serve as the primary method for a user-level program to request specific services from the operating system's kernel.
g) Types of System call	File Management, Device Management, Communication
h) Instruction cycle	Operation performed by CPU to execute an instruction. In includes Fetch, Decode and Execute
i) Trap Instruction	Switch from user mode to kernel mode in case of I/O interrupted instructions or in case of exception.(e.g divide by zero)
j) Threads	Light weight processes, sharing data memory and code memory from the main process but have separate stack.
k) Thread Synchronization	Concurrent execution of threads accessing shared resources may raise conflicts and inconsistent data. Synchronization among them is needed to avoid those conflicts.

l) Resource Allocation	CPU Time and Memory space allocation to processes in an effective manner
m) Device Drivers	Special type of software program that enable hardware device to communicate with the operating system.
n) Kernel	It is the core component of OS it manages CPU Time and memory space.
o) spooling	Data is sent to and stored in main memory or other volatile storage until it is requested for execution by a program or computer.
p) Virtual Memory	Virtual Memory is a storage allocation scheme in which secondary memory can be addressed as though it were part of the main memory.
q) Zombie Process	It is the process that completed the execution but still have entry in the memory.
r) MMU	Memory Management Unit used for high efficiency and secure utilization of memory devices.
s) GPU	Graphical Processing Unit is special device that speeds up processing of images and videos.
t) L1 Cache	Used for storing recently accessed information built-in CPU

Good Luck 😊