Quiz:01

Batch-16(A) OS(Theory) Room 702

Time : 12.15 pm-1.30 pm

Total Marks - 15

Q1. What is the relationship between operating systems and computer hardware?.

(5 marks)

Q2. What is the Contiguous memory management schemes ? Describe the Advantages and disadvantage of Single contiguous memory management? (5 marks)

Q3. Under certain circumstances would a user be better off using a time-sharing system rather than a single-user workstation , describe the advantage and disadvantage of time-sharing operating system ?

(5 marks)

a)	What are the three types of process scheduling in operating system?	3	CO2
b)	Describe the context switching is the mechanism?	3	CO2
c)	Explain the process scheduling queues?	4	CO3

Daffodil International University

Faculty of Science & Information Technology
Department of Computing and Information System
Final Examination, Spring-2024
Course Code: CIS232, Course Title: Operating System
Level:2 Term:1

Exam Duration: 2 Hours **Marks: 40**

Answer ALL Questions [Optional]

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

			[Marks]	[COL]
1.	Virtual memory is a common technique used in a computer's operating system (OS). Virtual memory uses both hardware and software to enable a computer to compensate for physical memory shortages, temporarily transferring data from random access memory (RAM) to disk storage.			
	a)	How Virtual Memory Works?	2	COL1
	b)	Describe the virtual memory management system?	3	COL2
	c)	Let's consider a process P1 of size 2 MB and the main memory which is divided into three partitions. Out of the three partitions, two partitions are holes of size 1 MB each. Hence explain why it is necessary to need memory paging?	5	COL3
2.	Processes Synchronization is the way by which processes that share the same memory space are managed in an operating system. It helps maintain the consistency of data by using variables or hardware so that only one process can make changes to the shared memory at a time.		[Marks]	[COL]
	a)	What is a Critical Section Problem in OS?	2	COL1
	b)	Describe why lock variables are used in OS?	3	COL2
	c)	Explain the role and advantage of semaphore?	5	COL3
3.	In operating systems, memory management is the function responsible for managing the computer's primary memory. The memory management function keeps track of the status of each memory location, either allocated or free.		[Marks]	[COL]
	a)	*How data is being stored in a computer memory system?*	3	COL1
	b)	Explain the advantages and disadvantage of dynamic partitioning over fixed partitioning?	4	COL2
	c)	Describe the problem with compaction?	3	COL1
4.	Process scheduling is the activity of the process manager that handles the removal of the running process from the CPU and the selection of another process based on a particular strategy.		[Marks]	[COL]