PRN:		Course Code :	U16PC101

First Year B. C. A. Semester End Examination Summer 2024

Basics of Operating System

Day and Date: 25 MAY 2024, Sat Max Marks: **50**

Time : 02:00PM To 04:00PM Duration: **02** hrs

Instructions:

1) All questions are compulsory.

Q.1	**Attempt the following.**	Marks	Bloom's Level	CO
a)	**Fourth-generation operating systems are known for:** A) Use of magnetic drum memory B) Batch processing C) Distributed computing and networking D) Lack of user interfaces	01	L1	CO1
b)	**Which operating system function ensures that different tasks and applications can run simultaneously without interfering with each other?** A) Multithreading B) Multiprogramming C) Memory management D) File management	01	L1	CO2
c)	**Which of the following is a role of the operating system?** A) Memory management B) Processor management C) Device management D) All of the above	01	L1	CO1
d)	**Which of the following is not a service provided by an operating system?** A) Program execution B) I/O operations C) Virus protection D) File system manipulation	01	L1	CO2

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e)	**A process control block (PCB) does not contain which of the following?** A) Process state B) Program counter C) Memory management information D) Source code	01	L1	CO1
f)	**Which of the following is a primary objective of CPU scheduling** A) Minimize CPU usage B) Maximize response time C) Maximize throughput D) Minimize context switches	01	L1	CO2
g)	**In fixed partitioning, the main memory is divided into:** A) Equal-sized partitions B) Variable-sized partitions C) Partitions based on process requirements D) Dynamic partitions	01	L1	CO1
h)	**Which of the following is a correct pair of concepts in virtual memory management?** A) Logical address and partitioning B) Physical address and segmentation C) Logical address and physical address D) Paging and linked list	01	L1	CO2
i)	**Which of the following is not an attribute of a file?** A) Name B) Size C) Owner D) CPU usage	01	L1	CO2
j)	**Which directory structure allows files to be organized in a hierarchy of directories?** A) Single-level directory B) Two-level directory C) Tree-structured directory D) Acyclic graph directory	01	L1	CO2

Q.2		**Attempt the following.**			
	a)	Explain batch operating system with its advantages and disadvantages	05	L2	CO3
	b)	Compare multitasking and multiprocessing operating system.	05	L2	CO4
		OR			
	b)	Write brief note on different services of operating system.	05	L1	CO2
Q.3		**Attempt any two.**			
	a)	Define process and program? Write difference between them?	05	L1	CO2
	b)	What are system calls? Discuss different categories of system calls?	05	L1	CO1
	c)	Discover Process Control Block? Write a note on Process Control block (PCB).	05	L4	CO1
Q.4		**Attempt any two.**			
	a)	Explain First Come First Serve Scheduling (FCFS) algorithm?	05	L2	CO3
	b)	Discuss various scheduling criteria	05	L3	CO2
	c)	Explain shortest job first (SJF) Scheduling algorithm?	05	L2	CO3
Q.5		**Attempt any two.**			
	a)	What is file? Explain attributes of file?	05	L1	CO2
	b)	Explain the concept of partitioning? Differentiate between fixed and variable partitioning?	05	L3	CO3
	c)	Elaborate file operations?	05	L4	CO4

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