

 VIT-AP UNIVERSITY	Continuous Assessment Test - 1 Fall Semester (2025-26) - August 2025	
	Maximum Marks: 50	Duration: 90 Minutes
Course Code: SWE2007	Course Title: Introduction to operating systems	
Set No: 1	Exam Type : Closed Book	School: Scope
Date: 22/08/2025	Slot: E1	Session: FN
Keeping mobile phone/smart watch, even in 'off' position is treated as exam malpractice		
General Instructions if any 1. "fx series" - non Programmable calculator are permitted : NO 2. Reference tables permitted : NO		

Answer ALL Questions, Each Question Carries 10 Marks (5×10=50 Marks)

- Describe the key functions of an operating system. Provide examples of how these functions are implemented in a modern operating system like Linux or Windows. (10 M)
- Distinguish among the following terminologies: (i) Multiprogramming System, (ii) Time Sharing System, and (iii) Batch Operating System with real time examples. (10 M)
- A system employs Round Robin (RR) scheduling with a time quantum of 3 milliseconds. Given the burst times of the processes, simulate the scheduling and evaluate how the chosen time quantum affects the average waiting time and average turnaround time. (10 M)

Process Time	Arrival Time	Burst Time
P1	0	6
P2	1	4
P3	2	9
P4	3	5

- A hardware interrupt occurs when a process is in the middle of an important computation. Explain how the operating system handles this interrupt with process states, saves the process control block (10 M)
- How does the operating system use scheduling algorithms to determine when to perform a context switch between processes, and what impact does this have on system performance? (10 M)