SET-224 /CET-225
Operating Systems

LAB # 14

LAB Title

Open Ended Activity

Assessment of CLO: 05, PLO: 09

Student Name:	
Roll No.	
Semester		Session	

S. No.	Perf. Level / Criteria	Excellent (2.5)	Good (2)	Satisfactory (1.5)	Needs Improvement (0 ~ 1)	Marks Obtained
1	Project Execution & Implementation	Fully functional, optimized, and well-structured.	Minor errors, mostly functional.	Some errors, requires guidance.	Major errors, non-functional, or not Performed.	
2	Results & Debugging Or Troubleshooting	Accurate results with effective debugging Or Troubleshooting.	Mostly correct, some debugging Or Troubleshooting needed.	Partial results, minimal debugging Or Troubleshooting.	Incorrect results, no debugging Or Troubleshooting, or not attempted.	
3	Problem-Solving & Adaptability (VIVA)	Creative approach, efficiently solves challenges.	Adapts well, minor struggles.	Some adaptability, needs guidance.	Lacks innovation or no innovation, unable to solve problems.	
4	Report Quality & Documentation	Clear, structured, with detailed visuals.	Mostly clear, minor gaps.	Some clarity issues, missing details.	Poorly structured, lacks clarity, or not submitted.	
	Total Marks Obtained Out of 10					

Experiment evaluated by

Instructor's Name	Engr.Bushra Aziz		
Date		Signature	

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Lab Experiment 14: **Open Ended Activity**

Task:

Imagine a **parking lot** with **5 parking spaces** and a stream of **10 cars** arriving randomly.

- Each car needs to park in a space, stay for a random amount of time, and then leave.
- If no spaces are available, the car must wait until one is free.

Your goal is to write a program that:

1. Simulates the behavior of cars entering and leaving the parking lot.
2. Ensures no two cars occupy the same parking space simultaneously.
3. Prevents issues like cars waiting indefinitely.

Deliverables:

1. **Program Code**:
   - o A well-documented program that simulates the parking lot scenario and includes synchronization mechanisms.

2. **Short Report**:
   - o Describe the strategy you used and any variations implemented.
   - o Highlight challenges faced and how you solved them.
   - o Discuss insights gained from experimenting with variations.