



Programme: B.E – CSE (AI&ML) and CSE(CS)

Internal Assessment – I

TERM: 11-04-2024 to 27-07-2024	COURSE NAME: OPERATING SYSTEMS
DATE: 01/06 /2024 TIME: 9:30 to 10:30am	COURSE CODE: CI45/CY45
MAX MARKS: 30	PORTIONS: L1 to L18
SEMESTER: 4 th SEM	SECTION: A



Mobile Phones are banned

Instructions to Candidates: Answer any TWO full questions.

Marks: 15x2=30

Q. NO	Questions	Blooms Levels	CO	Marks
1.a	Describe with neat diagram a mechanism incorporated in a computer system to differentiate between the execution of user code and operating system code (system calls).	L2	CO1	5
b	Describe the structure maintained by operating system to store process specific information. Elaborate on each field.	L2	CO3	5
c	A person sitting in front of a computer system launches Facebook application to chat with his friend at time =3ms followed by wink music player at 4ms and twitter application at 5ms. If each of these applications requires 10ms, 2ms, and 4ms respectively to complete their execution, Plot the Gantt chart to illustrate the execution of these processes using SRTF (shortest remaining time first), Compute at what time each of these processes completes their execution. Also calculate what will be the average waiting time and turnaround time of these processes.	L3	CO2	5
2.a	Describe the context switching mechanism with suitable diagram. "Context switching is considered as a pure overhead for system performance". Justify.	L2	CO1	5
b	Differentiate between long term, short term and medium-term schedulers.	L2	CO3	5
c	Elaborate on different services provided by operating systems that are helpful for the user.	L2	CO3	5
3.a	"A thread is a light weight process". Justify. Also describe the benefits of multi-threading.	L2	CO3	5
b	With a neat diagram describe the activity of a process throughout its life time.	L2	CO3	5
c	Differentiate between multi-programming and multi-tasking systems. List the motivation for designing the system as multiprogramming or multi-tasking systems.	L2	CO1	5

* L1 – Remember, L2 – Understand, L3- Apply, L4- Analyze, L5-Evaluate, L6-Create