



	InSem Examination-IISummer2024		
	Exam Seat No.:		
	Academic Year:2023-2024	Semester:IV	
	Name of Programme: SY B.Tech (Computer Engg/ AI-DS/ CSD)	Pattern:2022	
	Name of Course:Operating Systems	Course Code:COM222013	
	Max. Marks:30	Duration:1 Hr	
	<b>Instructions:</b> Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.  1. This question paper contains 2 pages. 2. Answer to each new question is to be started on a new page. 3. Assume suitable data wherever required, but justify it. 4. Draw the neat labelled diagrams, wherever necessary. 5. The last columns indicates the Course Outcome.		

**Question No. 1 Attempt following Question**

- a) Explain time sharing OS with the help of a diagram. (5) CO1

OR

- b) Explain with diagram any four services provided by operating systems. (5) CO1

- c) Explain systems calls. Explain following process control system calls: (5) CO1

1.Load() 2. Execute() 3. abort()

4. get\_process\_attributes() 5. set\_process\_attributes()

OR

- d) Explain dual mode operating systems with the help of diagram. (5) CO1

- e) Explain any five basic shell commands with syntax. (5) CO1

OR

- f) Explain if\_else control statement in shell script. Find the greater number from the two given numbers. (5) CO1

**Question No. 2 Attempt following Question**

- a) Explain process control block(PCB) with a neat diagram. (5) CO2

OR

b) Explain process state diagram. (5) CO2

c) Explain round robin (RR) CPU scheduling algorithm in detail. (5) CO2

OR

d) Demonstrate the use of FCFS CPU scheduling algorithm to solve the following. (5) CO2

Consider process id P1, P2 and P3 are arrived at in the ready queue. The burst time is 24, 3 and 3 respectively. Draw a gantt chart. Find out waiting time and average waiting time.

e) Explain multicore programming. Explain any four multicore programming challenges. (5) CO2

OR

f) Explain Threads. Compare many-to-one and many-to-many multithreading models (5) CO2

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