

**Vivekananda College of Engineering & Technology, Puttur**  
 [A Unit of Vivekananda Vidyavardhaka Sangha Puttur ®]  
 Affiliated to VTU, Belagavi & Approved by AICTE New Delhi

CRM08	Rev 1.15 (2024 rev)	CSE	14/10/2024
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**CONTINUOUS INTERNAL EVALUATION - 1**

Dept: CSE/AI/CD	Sem / Div: 3 <sup>rd</sup>	Sub: Operating Systems	S Code: BCS303
Date: 19/10/24	Time: 9:30-11:00	Max Marks: 50	Elective: N

Note: Answer any 2 full questions, choosing one full question from each part.

QN	Questions	Marks	RBT	CO's
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**PART A**

1	a Explain the dual mode operation of operating system with a neat diagram	10	L2	CO1
	b Explain the services provided by Operating system	10	L2	CO1
	c Illustrate the difference between multiprogramming and multitasking	5	L2	CO1

**OR**

2	a Explain the types of Computer system architecture	10	L2	CO1
	b Explain the concepts of Nonvirtual and Virtual machine with the help of a neat diagram	10	L2	CO1
	c Explain different system calls with example	5	L2	CO1

**PART B**

3	a Explain different states of a process and process control block with the suitable diagrams.	8	L2	CO2
	b Explain average waiting time and turnaround time for the following snapshot of processes using i) FCFS ii) SRTF iii) preemptive priority iv) Preemptive Round Robin with Time Quantum=3ms with the example given below.	12	L2	CO2

Process id	Arrival time	Burst time	Priority
P1	0	10	4
P2	3	5	2
P3	3	6	6
P4	5	4	3

c Explain the concept of critical-section.

5 L2 CO3

**OR**

4 a Explain Interprocess communication

8 L2 CO2

b Explain the concepts of Multithreading models and multilevel queue scheduling, with a neat diagram.

12 L2 CO2

c Explain the concept of Peterson's Solution

5 L2 CO3

**Prepared by:**

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**HOD**