Sanjay Ghodawat University, Kolhapur 2019-20

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017 EXM/P/09/01

Program:2019-20 **School of Technology** **Department of Computer Science & Engineering**

Course Code: CST210 **Course Title: Operating Systems** **Semester – IV**

Day and Date: Wednesday
10.30 TO 01:30

End Semester Examination (ESE) **Time:** **Max Marks: 100**

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

		Marks	Bloom's Level	CO
Q.1	**Attempt the Following**			
a)	Describe process state transition diagram in detail	07	L_2	CO1
	OR			
a)	What is operating system? Discuss different services of operating system	07	L_2	CO1
b)	Explain mechanism of process scheduling with respect to 1. Queuing diagram 2. Ready and various I/O queue diagram.	08	L_2	CO3
	OR			
b)	List parameters or criteria's of process scheduling algorithm and comment on preemptive scheduling.	08	L_1	CO3
Q.2	**Attempt the Following**			
a)	Differentiate Linux file system with respect to its type's .Explain different file system mount points.	08	L_3	CO2
	OR			
a)	Why monitors are needed? Explain its usage, syntax and schematic view with condition variables.	08	L_3	CO2
b)	Define a critical section problem and what are proposed solutions for them? Explain Semaphores.	07	L_4	CO4
	OR			
b)	Describe general usage of Linux kernel.	07	L_4	CO4
Q.3	**Attempt any Two**			
a)	Define semaphores. Give its implementation in detail.	08	L_3	CO1

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b)	Describe the following i) Real time operating systems ii) Time sharing system	08	L_3	CO3
c)	How to use synchronization hardware instructions such as lock, TestAndSet () instruction, Swap () instruction to handle critical section problem.	08	L_3	CO2

Q.4 Attempt any Two

a)	How Domain Name System (DNS) operates in Linux. List out types of DNS queries.	09	L_3	CO5
b)	Demonstrate working of network file system (NFS) on Linux operating system.	09	L_3	CO5
c)	How to use FTP? Explain commands and modes of FTP.	09	L_3	CO5

Q.5 Attempt the Following (ANY TWO)

a)	What is DHCP? Give it's configuration in Linux.	09	L_2	CO6
b)	Explain Secure Shell (SSH) with proper diagram.	09	L_2	CO6
c)	Describe changing directory and file permission in Linux.	09	L2	CO5

Q.6 Attempt any Three

a)	Describe Linux network namespace.	06	L_2	CO5
b)	Explain networking in Linux with respect to abstract view, layers, and IP V4 & IPV6 addresses	06	L_2	CO5
c)	Describe Linux port scanning tools (any three).	06	L_2	CO6
d)	Explain file and directory handling commands	06	L_2	CO6

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