Sanjay Ghodawat University, Kolhapur

2020-21

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

EXM/P/09/00

Year and Program: 2020-21, B.Tech	**School of Technology**	**Department: Computer Science and Engineering**
Course Code: CST210	**Course Title: Operating System**	**Semester :IV**
Day and Date:	**End Semester Examination**	**Time:2 Hrs. Max Marks:50**

Instructions: 1) All Questions are compulsory.
2) Assume suitable data wherever necessary.
3) Figures to the right indicate full marks.

Q.1		**Answer/Solve the following (any Two)**	**Marks**	**Bloom's Level**	**CO**
	a)	Describe role of DMA controller and priority based scheduling scheme in multiprogramming operating system to improve concurrent execution of CPU and I/O activities.	8	L1	CO1
	b)	Describe priority scheduling algorithm to schedule the processes.	8	L2	CO2
	c)	Classify the preemptive and nonpreemptive type of scheduling schemes applied by the CPU to schedule the processes.	8	L2	CO2
Q.2		**Answer/Solve the following (any two)**			
	a)	In an organization, 50 programmers are working on a single database and performing their activities of reading data from the database and writing the data to the database. As a project leader, you found that, some of the records are present in inconsistent form because the reading and writing operations generates the race condition and you need to provide the solution to this problem. a) Solve the problem using classical method of synchronizing at the application level. b) Describe the solution and required algorithm to the above problem.	8	L3	CO3
	b)	Describe the hardware level solution to critical section problem using TestAndSet( ) and Swap( ) instructions	8	L2	CO3
	c)	Describe the use of following Linux command with an example: I. Remove Directory II. Grep file command. III. View the contents of the zip file before unzip IV. Create and display the contents of a file.	8	L2	CO3

Q.3		**Answer/Solve the following (any two)**			
	a)	Describe role of Network file system in Linux network operating system.	9	L2	CO5
	b)	How the following network tools helps system administrator in troubleshooting the computer network problem: I. Ping and Host II. Traceroute and Netstat III. Nslookup and route	9	L4	CO5
	c)	The SSH protocol is an encrypted protocol designed to give a secure connection for Linux operating system. Justify your answer.	9	L3	CO6

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