

Name. _____		Printed Pages:01																				
Student Admn. No.: _____																						
School of Computing Science & Engineering Backlog Examination, June 2023 [Program: BCA] [Semester:IV] [Batch:1]																						
Course Title: Operating Systems		Max Marks: 100																				
Course Code: BCAS2015 / BCAC2202		Time: 3 Hrs.																				
Instructions:	1. All questions are compulsory. 2. Assume missing data suitably, if any.																					
		K Level	COs	Marks																		
SECTION-A (15 Marks) 5 Marks each																						
1.	What is operating Systems and what are the functions of operating systems	k1	CO1	5																		
2.	Define Virtual memory concept	k2	CO1	5																		
3.	What are the various methods for disk allocation and explain them briefly	k1	CO3	5																		
SECTION-B(40 Marks) 10 Marks each																						
4.	What is operating system? Explain different functions of operating system.	k2	CO2	10																		
5.	What are the four necessary conditions to occur a deadlock? Explain bankers algorithm.	k3	CO4	10																		
6.	Compare parallel processor systems with distributed systems.	k4	CO1	10																		
7.	Explain Dining Philosopher problem in process synchronization. OR What is deadlock detection and recovery? Describe the methods for recovering from deadlock.	k3	CO3	10																		
SECTION-C (45 Marks) 15 Marks each																						
8.	Explain with the help of examples FIFO and LRU, with example. Mention the merits and demerits of each of the above. OR Consider the following set of processes with the length of CPU burst time give in milliseconds: <table style="margin-left: 20px;"> <thead> <tr> <th>Process</th> <th>Burst Time</th> <th>Priority</th> </tr> </thead> <tbody> <tr> <td>P1</td> <td>10</td> <td>3</td> </tr> <tr> <td>P2</td> <td>29</td> <td>1</td> </tr> <tr> <td>P3</td> <td>3</td> <td>3</td> </tr> <tr> <td>P4</td> <td>7</td> <td>4</td> </tr> <tr> <td>P5</td> <td>12</td> <td>2</td> </tr> </tbody> </table> The processes are assumed to have arrived in the order P1, P2, P3, P4, P5 all at time 0. What is the turnaround time and waiting time of each process for using FCFS, SJF	Process	Burst Time	Priority	P1	10	3	P2	29	1	P3	3	3	P4	7	4	P5	12	2	k4	CO3	15
Process	Burst Time	Priority																				
P1	10	3																				
P2	29	1																				
P3	3	3																				
P4	7	4																				
P5	12	2																				
9.	What is the importance of paging and segmentation in memory management? Explain with diagram.	k3	CO4	15																		
10	Define concept of File Operations. Give the process of directory structures and File management. OR Discuss various system threats to Operating System. What is access control and authentication?	k3	CO5	15																		