

Code No: 843AC

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**MCA I Semester Examinations, March/April - 2022****OPERATING SYSTEMS****Time: 3 Hours****Max.Marks:75****Answer any five questions****All questions carry equal marks**

1. Explain in detail about multiprogrammed, time-shared and real time systems in details. [15]
2. Discuss about various process and file handling utilities. [15]
3. Find out average waiting time for given data using SJF and round robin (time quantum: 2units) scheduling algorithm: [15]

Process ID	Arrival time	Burst time
P01	0	5
P02	2	3
P03	4	2
P04	5	6
P05	6	4

4. What is a deadlock? How can it be detected and recovered? [15]
5. How semaphores can be used for process synchronization? [15]
6. Explain IPC between processes on different systems using message queues and shared memory. [15]
7. Simulate page replacement algorithms on following reference strings: [15]
1,2,3,2,1,2,3,4,5,6,5,4,3,5
8. Explain various file allocation and access methods. [15]

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