

R20**Code No: 871AD****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA I Semester Examinations, July/August - 2021****OPERATING SYSTEMS****Time: 3 Hours****Max.Marks:75**

Answer any five questions
All questions carry equal marks

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- 1.a) Write in detail on time shared and real-time operating systems.
b) What is Operating system? Explain various services of operating system. [7+8]
- 2.a) What is CPU scheduling? Describe the difference among the short term scheduler, Medium term scheduler and Long term scheduler.
b) What is thread? Explain about user-level and kernel level threads. [7+8]
- 3.a) What is the difference between the processes and thread ?Explain about process and process control block.
b) What is dead lock? Explain about the dead lock prevention conditions. [7+8]
4. What is process Synchronization and critical section? Explain the Peterson solution on critical section problems. [15]
5. What is semaphore? How it is used in solving the critical section problems? [15]
6. Consider the following page reference string 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1 How many page faults would occur for the following replacement algorithm assuming three frames?
a) FIFO replacement b) Optimal replacement. [8+7]
- 7.a) What is Virtual memory? Explain the demand paging and its performance.
b) Write detail on file allocation methods. [7+8]
- 8.a) Discuss about File system structure.
b) Explain about lseek, stat and ioctl system calls. [7+8]

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