

**R20**

Code No: 871AD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**MCA I Semester Examinations, May - 2022****OPERATING SYSTEMS****Time: 3 Hours****Max.Marks:75**

Answer any five questions
All questions carry equal marks

- 1.a) Write in detail on parallel and distributed operating systems.
b) Explain objectives and functions of OS. [8+7]
- 2.a) Explain about Multiprogrammed and Time-shared operating system.
b) Explain about various system components. [8+7]
- 3.a) What is CPU scheduling? Compare pre-emptive and non-preemptive scheduling methods.
b) Explain two pre-emptive scheduling algorithms with suitable examples each. [8+7]
4. Explain about fork, exit, wait, waitpid and exec system calls. [15]
5. What do you mean by Monitors? How it is used solve the Dining-Philosophers Solution Using Monitors? [15]
- 6.a) What is dead lock? Explain about the dead lock detection.
b) Explain the procedure for recovering from the deadlock. [8+7]
7. Consider the following page reference string 1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6 how many page faults would occur for the following replacement algorithm assuming three, and four frames ?
a) FIFO replacement b) Optimal replacement. [8+7]
- 8.a) Explain various approaches for free space management.
b) Write briefly on open, create, read, and write, close file operations system calls. [5+10]

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