

R19

Code No:862AB

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

MCA I Semester Examinations, October/November - 2022

OPERATING SYSTEMS

Time: 3 Hours

Max.Marks:75

**Answer any five questions
All questions carry equal marks**

- 1.a) Define Operation system and write its services.
b) Describe simple operating system structure and its components. [7+8]
- 2.a) Compare multiprogramming Vs multi-processor operating systems.
b) What is distributed operating system and explain its advantages and disadvantages?[7+8]
- 3.a) Define process and explain its state diagram in detail.
b) Explain operations on process and related commands. [7+8]
- 4.a) Write about long, middle and short term schedulers in detail.
b) Explain Round Robin CPU Scheduling algorithm with an example. [7+8]
- 5.a) What is deadlock and explain necessary conditions to hold deadlock.
b) Explain deadlock recovery techniques. [7+8]
- 6.a) Define critical section problem with an example.
b) What is monitor and Write the solution for readers and writers problem using monitor.[7+8]
7. Write a detailed note on:
a) Paging and its mechanism.
b) Optimal Page Replacement algorithm. [8+7]
- 8.a) Explain linked and indexed file allocation methods.
b) Describe bit vector and counting free space management techniques. [8+7]

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