

Code No: 843AC

**R17**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**MCA III Semester Examinations, February - 2021**

**OPERATING SYSTEMS**

**Time: 2 hours**

**Max.Marks:75**

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

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1. What are the different services offered by the operating system? Explain in detail. [15]
- 2.a) Briefly explain typical functions of an Operating-System Kernel.  
b) What are the different types of operating systems? Explain them in detail. [7+8]
- 3.a) What is unsafe state ? Differentiate between unsafe state and deadlock state.  
b) Explain recovery procedures from deadlocks. [7+8]
4. Explain the following:  
a) Scheduling Criteria.  
b) Cooperating Processes. [7+8]
5. Explain about message queues and shared memory. [15]
- 6.a) Explain about demand paging.  
b) Differentiate between paging and segmentation. [7+8]
- 7.a) Describe file system mounting.  
b) Explain the concept and techniques of free space management. [7+8]
8. Write short notes on: a) unix file structure b) system calls in unix. [7+8]

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