



Code No: F3202

R09

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

MCA II Semester Examinations, August - 2017

OPERATING SYSTEMS

Time: 3hrs

Max.Marks:60

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

- 1.a) Define Batch operating system and time sharing operating system, giving the essential properties of each of them.
- b) List and explain various layers of an operating system. [6+6]
- 2.a) Distinguish between user mode and kernel mode of operations in operating systems.
- b) List the difference between preemptive and non-preemptive scheduling. [6+6]
- 3.a) State the requirements that a solution to the critical section problem must satisfy.
- b) What are the different principles which must be considered while selection of a scheduling algorithm? [6+6]
4. Why should page replacement be performed? Compare FIFO, Optimal and LRU page replacement algorithms with an example. [12]
- 5.a) What is segmentation? How it differ from paging?
- b) What is disk scheduling? Give SCAN disk scheduling algorithm. [6+6]
6. List and briefly discuss the most common schemes for defining the logical structure of a directory. [12]
7. How does deadlock avoidance differ from deadlock prevention? Write about deadlock avoidance algorithm in detail. [12]
- 8.a) Why protection is required for a system? Explain the principles of protection.
- b) Illustrate the design principles of UNIX system. [6+6]

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