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M. Tech. 2nd Semester (CSE) Examination,
May – 2015
RESOURCE MANAGEMENT IN COMPUTER
SYSTEMS
Paper–MTCE-604 A

Time allowed : 3 hours] [Maximum marks : 100

Note : Attempt any five questions.

1. (a) What is an operating system ? Explain various functions performed by the operating system. 10
(b) Discuss three major complications that concurrent processing add to an operating system.
2. What do you mean by deadlock ? Mention necessary conditions for deadlock. Explain the mechanism for deadlock prevention. 20
3. (a) Suppose that the following processes arrive for execution at the times indicated. Each process will run for the amount of time listed. In answering the questions, use non preemptive scheduling, and base all decisions on the information you have at the time the decision must be made. 10

Process	Arrival time	Burst time
P1	0.0	8
P2	0.4	4
P3	1.0	1

- (i) What is average turnaround time for these processes with the FCFS scheduling

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- algorithm ?
- (ii) What is the average turnaround time for these processes with the SJF scheduling algorithm ? <http://www.HaryanaPapers.com>
 - (b) What are the major activities of an operating system with regards to file management and memory management ? 10
 4. What is distributed file system ? Explain its various features. Explain various design issues in DFS. 20
 5. (a) What is the difference between computation migration and process migration ? Which is easier to implement, and why ? 10
(b) Explain any one protocol for casual ordering. 10
 6. (a) What do you mean by memory coherency ? Explain its importance in distributed systems. 10
(b) Explain bell La Pedula model. 10
 7. Explain the following : 20
(a) Access matrix
(b) Suzuki-Kasami broadcast model
 8. Write notes on : 20
(a) Distributed mutual exclusion
(b) Distributed system architecture
(c) Demand paging.

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