

Code: CSCS1T5

PVP 12

I M.Tech-I Semester-Regular Examinations-April 2013

**OPERATING SYSTEMS
(COMPUTER SCIENCE & ENGINEERING)**

Duration: 3hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. (a) What are the various objectives and functions of OS?
7 M
- (b) Briefly explain the process and memory management responsibilities of a typical OS?
7 M
2. (a) What is a process? Explain different types with neat diagram.
6 M
- (b) Explain about the symmetric multiprocessing. 8 M
3. (a) What is a race condition? Explain the critical section problem.
7 M
- (b) What is a semaphore? Explain the producer – consumer problem.
7 M
4. (a) Define deadlock. What are the necessary conditions that create deadlock?
7 M

- (b) Explain the Banker's algorithm for deadlock avoidance. 7 M
5. (a) Explain the fixed and dynamic partitioning techniques and also write the strengths and weakness. 6 M
- (b) Explain the following page replacement algorithms with example. 8 M
- i) LRU ii) OPTIMAL
6. (a) Explain the long term, short term and medium term scheduling. 7 M
- (b) Explain the FCFS and Round Robin scheduling algorithms. 7 M
7. (a) Explain the following disk scheduling policies. 8 M
- i) FCFS ii) SSTF
- iii) SCAN iv) C-SCAN
- (b) Explain 3 file allocation methods. 6 M
8. a) List and explain the passive and active attacks. 7 M
- b) Explain about intrusion detection. 7 M