

Code No: G0504/R13

**M. Tech. I Semester Supplementary Examinations, Jan/Feb-2018**

**OPERATING SYSTEM**

**(Common to CS and CS&E)**

**Time: 3 hours**

**Max. Marks: 60**

*Answer any FIVE Questions  
All Questions Carry Equal Marks*

1. a What is an operating system? Explain operating system services 6M  
b Discuss the evaluation of operating systems 6M
2. What is a CPU scheduling? Explain different CPU scheduling algorithms with suitable example 12M
3. a What is a critical section problem? Discuss Peterson solution to it 4M  
b Define Dining Philosophers problem? Give the solution using semaphores 8M
4. a What is deadlock? Explain how resource allocation graph is used to determine the deadlock 4M  
b Explain different deadlock avoidance algorithms 8M
5. What is page replacement? Explain the Optimal, Least recently used(LRU), First-in-first-out, and clock page replacement algorithms with three page frames for the following page trace: 12M  
  
2 3 2 1 5 2 4 5 3 2 5 2
6. a What is memory management? Explain different memory management allocation techniques 6M  
b What is RAID? Explain different RAID structures in detail 6M
7. a What is a File? Explain the file system interface 6M  
b What is a directory? Explain the directory implementation 6M
8. a Explain system and network threats in detail 6M  
b What is cryptography? Explain how it can be to protect the systems 6M

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