

Code: IT4T2

II B.Tech - II Semester – Regular Examinations - JUNE 2015

**OPERATING SYSTEMS
(INFORMATION TECHNOLOGY)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

- 1 a) Discuss briefly about evaluation of operating system. 9 M
- b) What are the objectives and functions of operating system? 5 M
- 2 a) How a system call is different from function call? Explain how system calls are implemented. 7 M
- b) Describe the Inter process communication in client-server systems. 7 M
- 3 a) Explain how the process and threads concepts are implemented in Unix, Linux and Windows operating systems. 7 M
- b) Define thread. Differentiate user threads and kernel threads. 4 M
- c) Discuss briefly on SJF Algorithm. 3 M
- 4 a) Explain Critical section problem through bounded buffer producer consumer problem. 7 M

- b) What are the minimum requirements that should be satisfied by a solution to critical section problem? Write Peterson Algorithm for 2-process synchronization to critical section problem and discuss briefly. 7 M
- 5 a) How deadlock avoidance is different from deadlock prevention. 4 M
- b) Mention and brief the three deadlocks handling approaches. 10 M
- 6 a) Compare logic memory concepts used in paging and segmentation. 4 M
- b) Explain how page tables are implemented. 4 M
- c) Explain about contiguous memory allocation with neat diagram. 6 M
- 7 a) Explain LRU and clock page replacement algorithms with an example reference string. 7 M
- b) Discuss the concept of virtual memory management in detail. 7 M
- 8 a) Write about disk-based file allocation methods. 7 M
- b) List and distinguish the various disk-file access methods. 7 M