



COMP 5-6 (RC)

T.E. (Computer) (Semester – V) (RC) Examination, Nov./Dec. 2012 OPERATING SYSTEMS

Duration: 3 Hours

Total Marks: 100

Instructions : 1) Answer **any five** questions by selecting at least **one** from **each** Module.

2) Sketch diagram **wherever** required.

3) Assume appropriate data **wherever** necessary.

MODULE – I

1. a) What is an Operating System ? List and explain advantages of multiprocessor systems. 5
- b) Explain the Process state transition diagram with one suspend state. 6
- c) How threads are different from processes ? Explain. 4
- d) Write a short note on Windows Threads. 5
2. a) List and explain different scheduling criteria for comparing CPU scheduling algorithms. 5
- b) What do you mean by critical section ? What requirements must be satisfied by a solution to the critical section problem ? 5
- c) What are Monitors ? How are they different from Semaphores ? Explain. 5
- d) Write a short note on critical regions. 5

MODULE – II

3. a) With the help of an example explain what is deadlock ? Also state and explain necessary conditions for deadlock. 5
- b) With the help of an example explain bankers algorithm. 6
- c) Write a short note on Deadlock Recovery. 5
- d) Differentiate between Logical versus Physical address space. 4
4. a) List different page replacement algorithms. Explain any two. 6
- b) What is Multilevel Paging ? Explain. 5
- c) Explain different steps in handling page fault. 5
- d) What is Cleaning Policy ? 4

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MODULE – III

5. a) What is File ? List and explain its attributes and operations performed on it. 6
- b) List different schemes for defining the logical structure of directory. Explain any two. 7
- c) Write a short note on Unix File management. 7
6. a) List different I/O services provided by Kernel I/O subsystem. Explain any two. 6
- b) Write a short note on polling. 5
- c) What do you mean by CLV and CAV in context to hard disks ? Explain LOOK disk scheduling algorithm. 6
- d) What is Sector Sparing ? 3

MODULE – IV

7. a) What is Virus ? Explain different phases of Virus. Also with the help of symbolic code explain virus structure. 7
- b) Write a short note on :
 - i) Windows security ii) Intruders. 10
- c) Explain use of chmod command in Linux. Give example. 3
8. a) Write a shell program to generate the following series :
1, 3, 2, 4, 3, 5, 4, 6 5
- b) Write a shell program to generate squares of first 30 numbers. 5
- c) Explain following shell commands with example.
 - i) who
 - ii) pwd
 - iii) cp
 - iv) wc
 - v) head. 10