

Sem- V E Regular 20/12/13
Comp Dept



COMP 5 – 6 (RC)

T.E. (Comp.) (Sem. – V) (RC) Examination, Nov./Dec. 2013 OPERATING SYSTEMS

Duration : 3 Hours

Total Marks : 100

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

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

MODULE – I

1. a) What do you mean by Multitasking ? 2
- b) Give the difference between a Thread and a Process. 3
- c) Explain in detail a five-state process model with a diagram. 6
- d) Differentiate between user-level and kernel-level threads. 5
- e) Explain the criteria required for scheduling. 4
2. a) What are the requirements for mutual exclusion ? 6
- b) Explain the dining philosopher problem. Give a solution using monitor. 6
- c) Explain shortest remaining time policy. Differentiate it with Round Robin. 8

MODULE – II

3. a) Give any 3 mechanisms to recover from a deadlock. 6
- b) With a neat diagram explain how paging process takes place. 6
- c) Explain how deadlock can be detected by giving suitable example. 6
- d) What is compaction ? 2
4. a) Discuss resident set management. 8
- b) Explain multilevel paging and inverted page table. 7
- c) How can paging performance improve by page buffering. 5

P.T.O.



MODULE - III

5. a) Discuss the 6 basic file operations. 6
- b) Explain how file system management is done in linux operating system. 6
- c) Explain briefly different directory structure. 8
6. a) Explain the process of disk formatting. 4
- b) How is bad block recovery done ? 6
- c) What is the difference between block-oriented devices and stream-oriented devices ? 5
- d) Explain the following disk scheduling policies : 5
 - i) Short Service Time First
 - ii) Priority.

MODULE - IV

7. a) Discuss the types of threats. 6
- b) Explain different Malicious software. 8
- c) What are different phases of virus ? Explain. 6
8. a) Write a shell program to find factorial of a given number. 5
- b) Write a shell script to generate the following pattern : 5


```

1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
6 6 6 6 6 6
      
```
- c) What is a digital Immune system ? 5
- d) How do you display both date and time in the format dd-mm-yy/hh : mm : ss ? 5