G 7054

M.E. DEGREE EXAMINATION, JANUARY 2006.

First Semester

Computer Science and Engineering

CS 1603 — OPERATING SYSTEMS

(Regulation 2005)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write pros and cons of Hard Real time system and Soft Real time system.

2. Differentiate message passing and shared memory communication model.

3. How modularization of operating system is performed?

4. How buffering is implemented?

5. List out the benefits of multithreaded programming.

6. Mention the necessary conditions for Deadlock occurance.

7. When page fault occur? Describe the actions taken by the operating system when a page fault occurs.

8. Why must the bit map for the file allocation be kept on mass storage rather than in main memory?

9. What are the limitations of two-level directory structure?

10. What is the function of Driver Registration in Linux System?

PART B — (5 × 16 = 80 marks)

11. (i) List out the functions of command interpreter. Why it is separated from the kernel? (6)

(ii) What is the need for system calls? How system calls are used? Explain with an example. (10)

12. (a) Explain different type of interprocess communication system.

Or

(b) Explain the algorithms for detecting and preventing deadlocks.

13. (a) Define segmentation and fragmentation. How segmentation performed? Explain with an example.

Or

(b) What are causes of thrashing? Explain working-set model with a example.

14. (a) Write short notes on the following :

(i) Tree-structured directory

(ii) Acyclic-graph directories

(iii) General graph and 2 level directories.

Or

(b) Explain three methods of allocating disk space.

15. (a) How cache is implemented in distributed file system?

Or

(b) Describe in detail about process management in LINUX operating system.
