Reg. No. : | | | | | | | | | | | |

Question Paper Code : 66286

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2011.

Fourth Semester

Computer Science and Engineering

CS 2254 – OPERATING SYSTEMS

(Common to Information Technology)

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What does the CPU do when there are no user programs to run?

2. What is the principal advantage of the multiprogramming?

3. Define Mutual Exclusion.

4. What is Semaphore?

5. What is page frame?

6. What is internal fragmentation?

7. A direct or sequential access has a fixed file-size S-byte record. At what logical location, the first byte of record N will start?

8. Give an example of a situation where variable-size records would be useful.

9. Writable CD-ROM media are available in both 650 MB and 700 MB versions. What is the principle disadvantage, other than cost, of the 700 MB version?

10. Which disk scheduling algorithm would be best to optimize the performance of a RAM disk?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the important services of an operating system. (8)

(ii) Discuss in detail the concept of virtual machines, with neat sketch. (8)

Or

(b) Write detailed notes on process control and file manipulation. (16)

12. (a) Explain in detail about any two CPU scheduling algorithms with suitable examples. (16)

Or

(b) (i) What is a deadlock? What are the necessary conditions for a deadlock to occur? (6)

(ii) How can a system recover from deadlock? (10)

13. (a) Explain about contiguous memory allocation with neat diagram. (16)

Or

(b) What do you mean by paging? Discuss in detail about structure of page tables with appropriate examples. (16)

14. (a) Write a detailed note on various file access methods with neat sketch.(16)

Or

(b) Discuss the different file allocation methods with suitable example. (16)

15. (a) Describe the important concepts of application I/O interface. (16)

Or

(b) Explain any two disk scheduling algorithms with suitable example. (16)

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