Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 71180

M.E. DEGREE EXAMINATION, JUNE/JULY 2013.

Elective

Computer and Communication

CP 9260/CP 964/10244 CCE 13 — OPERATING SYSTEM DESIGN

(Regulation 2009/2010)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Distinguish between operating system for mainframe computers and PCs.

2. What is meant by a system call?

3. Define the term "Critical Section".

4. Name the four necessary conditions for deadlocks to occur.

5. List out the differences between paging and segmentation.

6. Define the term "THRASHING".

7. Define single level directory structure. Give an example.

8. What is a bit vector?

9. Mention any two features of linux file system.

10. How do you give protection for files?

PART B — (5 × 16 = 80 marks)

11. (a) Discuss about the use of Inter Process Communication primitives in detail. (16)

Or

(b) (i) Explain the functions of various system components of O.S. (10)

(ii) What are the various states of a process? Explain in detail. (6)

12. (a) Explain about the scheduling criteria and any three algorithms with an example. (16)

Or

(b) How can deadlock be detected and recovered? Explain in detail. (16)

13. (a) (i) Describe contiguous memory allocation in detail. (8)

(ii) Explain how swapping can be used for memory management in detail. (8)

Or

(b) Explain any five page replacement strategies. Compare the performance of these strategies. (16)

14. (a) (i) Explain file access, file attributes and file operations. (8)

(ii) Describe the techniques for free space file management. (8)

Or

(b) Discuss with diagrams the following three disk scheduling: FCFS, SSTF, C–SCAN. (16)

15. (a) (i) Describe the components of a linux system in detail. (8)

(ii) Describe process scheduling in linux system in detail. (8)

Or

(b) (i) Describe the architecture of windows 2000 operating system. (8)

(ii) Describe about the security measures in linux system. (8)

———————