STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086
(For candidates admitted during the academic year 2009-10 & thereafter)

SUBJECT CODE : CS/PC/OS24

M. Sc. DEGREE EXAMINATION, APRIL 2011
INFORMATION TECHNOLOGY
SECOND SEMESTER

COURSE : CORE
PAPER : OPERATING SYSTEMS
TIME : 3 HOURS **MAX. MARKS : 100**

Section A

Answer all the questions: **10 x 2 = 20**

1. What is a batch system?
2. Define system calls.
3. Define sockets.
4. What is the drawback of one-to-one model?
5. Define spin lock.
6. What is a safe state?
7. What is paging?
8. What is memory mapping?
9. What are the contents of File Control Block (FCB)?
10. What is buffer?

Section B

Answer any six of the following questions: **6 x 5 = 30**

11. Write a short note about Clustered Systems.
12. What are the different categories of the system programs? Explain.
13. Diagrammatically illustrate and discuss the various states of a process.
14. What is multilevel queue scheduling? Explain.
15. Write a short note on monitors.
16. What are the four conditions for deadlock? Explain.
17. What is fragmentation? Explain in detail.
18. Discuss the layered architecture of file system.

Section C

Answer any five of the following questions: **5 x 10 = 50**

19. Discuss the reasons for building distributed systems.
20. Explain the various operating system services.
21. Explain long-term, medium-term and short-term scheduler in detail.
22. What is dining philosopher's problem? How will you synchronize it using semaphores?
23. Explain Banker's algorithm for avoiding deadlocks.
24. What are the different directory structures supported by the file system interface? Explain the working of each.
25. Discuss any two disk scheduling algorithm in detail.

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