

D 51730

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Name.....

Reg. No.....

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, DECEMBER 2013

(CUCSS)

Computer Science

CSC 3C 01—OPERATING SYSTEMS

Time : Three Hours

Maximum : 36 Weightage

Part A

*Answer **all** questions.*

*Each question carries 1 **weightage**.*

1. What is a **microkernel** ?
2. Define multithreading.
3. Differentiate between a mode switch and a process switch.
4. What is the significance of suspended process ?
5. What is the principle of locality ?
6. Explain **Linux** tasks.
7. Mention the four basic types of user mode processes supported by Windows.
8. What are the key design issues for an operating system that supports symmetric multiprocessing ?
9. What are the four conditions that create a deadlock ?
10. Differentiate between paging and segmentation.
11. Define three techniques for performing **I/O**.
12. What are the important criteria in choosing a file organization ?

(12 x 1 = 12 weightage)

Part B

*Answer any **six** questions.*

*Each question carries 2 **weightage**.*

13. Give a brief description of the architecture of **Linux**.
14. Briefly discuss the multithread architecture implemented in Solaris.
15. Explain the steps performed by an Operating System to create a new process.
16. Distinguish between user level threads and kernel level threads. List the advantages and disadvantages of each.
17. **Explain** the characteristics of real time operating systems.

Turn over

18. Briefly explain the **concurrrecny** mechanisms of Unix Operating Systems.
19. Briefly explain scheduling in UNIX SVR4.
20. Explain how Windows perform real time and non-real time scheduling.
21. Explain the various approaches of **I/O** buffering.

(6 x 2 = 12 weightage)

Part C

*Answer any **three** questions.
Each question carries 4 weightage.*

22. Discuss briefly the major design elements and architectural approaches introduced in both software and hardware, that have played a major role in the development of modern operating system.
23. Explain the compare how processes and threads are handled in Windows and **Linux**.
24. Discuss the paged virtual memory implemented in UNIX SVR4. How is the dynamic **kernal** memory allocation managed ?
25. Explain the various approaches for multiprocessor thread scheduling and processor assignment.
26. Explain the UNIX file system.
27. Discuss 110 management in Windows 2000.

(3 x 4 = 12 weightage)