

Reg. No. :

--	--	--	--	--	--	--	--	--	--

**Question Paper Code: 31235**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Third Semester

Computer Science and Engineering

01UCS305 - OPERATING SYSTEMS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Write the advantage of microkernel over monolithic kernel.
2. Mention the four benefits of multi-threaded programming.
3. What is busy-waiting? Is it preferable over blocking wait? Give reason.
4. What is the use of wait-for graph? Give an example.
5. What is Belady's anomaly?
6. Define Thrashing.
7. List out the different types of file access methods.
8. What are the different file access methods?
9. What are the objects present in Windows kernel?
10. Differentiate between the file systems in Linux and Windows 2000.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Explain briefly about the operating system services. (8)  
(ii) What is mean by Thread? Explain the different types of Threads. (8)

Or

(b) How the cooperating processes are communicating with each other via an Inter process communication facility? Explain in detail. (16)

12. (a) (i) Explain how an operating system controls the processes and manage the resources for processes. (8)

(ii) With a help of diagram discuss the structure of a monitor. (8)

Or

(b) List the solutions for a critical section problem. Explain in detail how the peterson solution satisfies all the above criteria. (16)

13. (a) (i) Briefly describe the paging hardware implementation with TLB. (8)

(ii) Write about the techniques for structuring the page table when page table entries are huge. (8)

Or

(b) Discuss the hardware support for segmentation and explain the mapping of logical address to physical address. (16)

14. (a) (i) What are the different ways of defining a directory structure logically? Explain each. (8)

(ii) Discuss the different types of file allocation methods on secondary storage device. (8)

Or

(b) Explain about the various File Allocation methods with necessary diagrams. (16)

15. (a) Elaborate on file systems and inter process communication in Linux. (16)

Or

(b) Illustrate the system components in Windows 2000 along with the design principles. (16)