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Question Paper Code: 31325

B.E. / B.Tech. DEGREE EXAMINATION, NOVEMBER 2015

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. What is meant by user visible processor registers?
2. Define interrupt. How will you handle interrupt?
3. What is meant by context switch?
4. Write the methods for handling deadlocks?
5. What is the main function of the memory-management unit?
6. Define effective access time.
7. What is the information associated with an open file?
8. What are the functions of virtual file system (VFS)?
9. What is meant by Para virtualization?
10. List out the components of DNS.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Explain how hardware protection can be achieved and discuss in detail the dual mode of operations. (8)

(ii) Explain in detail about multiprocessor and multi-core organization. (8)

Or

(b) (i) Discuss various operating system structures in detail. (8)

(ii) Explain in detail about threads. (8)

12. (a) What is meant by a process? Explain states of process with neat sketch and discuss the process state transition with a neat diagram. (16)

Or

(b) What is a critical section? Give examples. What are the minimum requirements that should be satisfied by a solution to critical section problem? Write Peterson algorithm for 2-process synchronization to critical section problem and discuss briefly. (16)

13. (a) (i) Explain the concept of demand paging. How can demand paging be implemented with virtual memory? (8)

(ii) Explain in detail about thrashing. (8)

Or

(b) Explain in detail about any one page replacement algorithm. (16)

14. (a) (i) Explain various file allocation methods in detail. (8)

(ii) Explain in detail the free space management with neat diagram. (8)

Or

(b) (i) What are the possible structures for directory? Discuss them in detail. (10)

(ii) Explain in detail about directory implementation. (6)

15. (a) (i) Explain in detail about Xen and VM ware on Linux host and adding guest OS. (8)

(ii) Explain in detail about DNS. (8)

Or

(b) (i) Explain in detail about setting up a Linux multifunction server. (8)

(ii) Define virtualization. Discuss the various methods of virtualization and its benefits. (8)
