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Question Paper Code: 34084

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Fourth Semester

Information Technology

01UIT404 - PRINCIPLES OF OPERATING SYSTEMS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. What is Graceful degradation?
2. Define context switch.
3. What is called Safe and Unsafe state?
4. Name the various classical problems of synchronization.
5. Define Page fault.
6. What is thrashing?
7. Define Spooling
8. What do you mean by distributed file system? Give its purpose.
9. List the various registers in an I/O port.
10. What is Sector sparing?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the execution process of RPC and RMI with a neat diagram. (16)

Or

- (b) What are the types of system calls? Explain the functions of each. (16)

12. (a) Explain Critical Section Problem and explain the contributions of Monitors and Semaphores? (16)

Or

(b) Discuss in detail about the methods for handling Deadlocks. (16)

13. (a) Explain the most common techniques for structuring the page table. (16)

Or

(b) Consider the page-reference string: 2 3 2 1 5 2 4 5 3 2 5 2. How many page faults occur for the FIFO, LRU and Optimal replacement algorithms, assuming three frames. (16)

14. (a) Discuss the schemes for defining the logical structure of a directory. (16)

Or

(b) What are the various free space management techniques? Explain. (16)

15. (a) Explain the various process scheduling algorithms with suitable example. (16)

Or

(b) Explain in detail the services provided by Kernel related to I/O system. (16)
