

12. Briefly explain various methods of allocating disk spaces with their advantages and disadvantages.
13. Describe UNIX process management in detail.
14. Explain Windows NT Virtual Memory Management System with the help of a diagram.
15. Explain the overall structure of the device driver system in Linux with a block diagram.

Register Number :

Name of the Candidate :

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B.Sc. DEGREE EXAMINATION, 2013

(COMPUTER SCIENCE)

(SECOND YEAR)

(PART - III)

(PAPER - V)

220 / 250 / 210. OPERATING SYSTEMS

(Common to B.Sc., C.S, I.T, and BCA)

May]

[Time : 3 Hours

Maximum : 100 Marks

PART – A (8 × 5 = 40)

Answer any EIGHT questions.

ALL questions carry EQUAL marks.

1. Explain layered approach for operating system design in detail.
2. What is a process and what are the operations on the process?

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3. What is mean by Deadlock Detection and Recover? Describe a technique for detecting deadlock.
4. Describe the structure of a typical system in detail.
5. Explain the Interprocess Communication Mechanisms in UNIX.
6. What is a shell in UNIX? What are the functions of shell?
7. Explain the relationship between applications, environment subsystems, and the Windows NT executive.
8. Explain the networking features of Windows NT.
9. Describe the components of the Linux System.
10. Explain Linux Security Model and Security Mechanisms in detail.

PART - B (3 × 20 = 60)

Answer any THREE questions.

ALL questions carry EQUAL marks.

11. Consider the following set of processes with the length of the CPU-burst time and arrival time given in milliseconds.

Process	Arrival Time	Burst Time	Priority
P ₁	0	8	3
P ₂	0	4	1
P ₃	0	6	2
P ₄	0	8	5
P ₅	0	6	4

Draw Gantt chart illustrating the execution of these processes using FCFS, SJF, RR and priority. Also, find the turnaround time and waiting time of each process for each of the above scheduling algorithms.

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