



6. a) Write the differences between Hardwired and microprogrammed control unit. 6  
b) Why control signals are needed in a CPU to execute an instruction? Write control signal generation for. ADD R<sub>0</sub>, R<sub>1</sub> where result is stored in R<sub>0</sub>. 7
7. a) Explain the concept of locality of reference. 4  
b) Explain how address translation is done in virtual memory. 6  
c) Write a short note on RAID. 3

**OR**

8. a) Explain the need of cache memory. 7  
b) Discuss various memory allocation techniques in detail. 6
9. a) Explain 8  
i) Vectored interrupt  
ii) Buses  
iii) Programmed I/O system.  
b) Explain different interrupts handling techniques. 5

**OR**

10. a) Explain how data transfer takes place using DMA technique. 5  
b) Explain about 8  
i) PCI  
ii) SCSI  
iii) DOT  
Matrix printers
11. a) Differentiate between uniform and non uniform memory access. 7  
b) Explain various Bus allocation schemes. 7

**OR**

12. Write a short notes on 14  
i) Multiprocessors ii) Super scalar processors  
iii) Clusters iv) Compare CISC and RISC.

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