

T.E. Sem 6 (Rev.)
EtoX

Computer Organisation

08/12/08

VT Oct. 08-209

Con. 5308-08.

(REVISED COURSE)

RC-6905

(3 Hours)

[Total Marks : 100

- N.B. : (1) Question No. 1 is **compulsory**.
(2) Attempt any **four** of the remaining **six** questions.
(3) Assume **suitable data** wherever **necessary** and **justify** the **same**.

1. Write short notes on :-
- (a) IEEE 754 format for floating point number representation 5
 - (b) D-RAM cell 5
 - (c) Bus arbitration 5
 - (d) Vectored Interrupt. 5
2. (a) Explain with a neat flowchart the data path for the floating point ALU. 10
(b) With a neat diagram and flowchart, explain Booths' algorithm multiplication of signed numbers. 10
3. (a) What are different addressing modes in Pentium processor ? Explain each with suitable example. 10
(b) Explain data dependent hazards in a linear pipeline with examples. 10
4. (a) What is microprogrammed control ? Explain MCU with a diagram. Also explain microprogram sequencing. 10
(b) How is a page in memory accessed ? What is a TLB ? 10
5. (a) Explain different multiprocessor systems. What are the cache issues you may encounter in multiprocessor systems ? 12
(b) State and explain various DMA transfer modes with proper diagrams. 8
6. (a) Why is cache memory required ? Explain one way set associative mapping used in a cache memory system. 10
(b) What are the advantages of pipelining ? Prove that for a K stage pipeline, the speed up factor = K. 10
7. (a) What are the different I/O access methods ? 10
(b) Explain various steps taken by a CPU in interrupt processing. Explain how multiple devices share a single interrupt line. 10
