

Code No: RA CS05140

II B.Tech II Semester(R05) Supplementary Examinations, December 2010
COMPUTER ORGANIZATION
(Computer Science & Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain about different buses in a practical computer system and their implications on accuracy, precision and addressability. [10]
 (b) What is Amdahl's Law? [6]
2. (a) Design a circuit transferring data from a 4bit register which uses D flip-flops to another register which employs RS flip-flops. [8]
 (b) What are register transfer logic languages. Explain few RTL statement for branching with their actual functioning. [8]
3. Draw the general block diagram of a microsequencer. Explain clearly the inputs and outputs of the same along with their functioning. [16]
4. (a) How many bits are needed to store the result addition, subtraction, multiplication and division of two n-bit unsigned numbers. Prove. [8]
 (b) What is overflow and underflow. What is the reason?. If the computer is considered as infinite system do we still have these problems?. [8]
5. (a) Explain how the Bit Cells are organized in a Memory Chip. [8]
 (b) Explain the organization of a 1K x 1 Memory with a neat sketch. [8]
6. (a) What is Direct Memory Access? Explain the working of DMA.
 (b) What are the different kinds of DMA transfers? Explain.
 (c) What are the advantages of using DMA transfers? [8+4+4]
7. Explain the following with related to the Instruction Pipeline
 - (a) Pipeline conflicts
 - (b) Data dependency
 - (c) Hardware interlocks
 - (d) Operand forwarding
 - (e) Delayed load
 - (f) Pre-fetch target instruction
 - (g) Branch target buffer
 - (h) Delayed branch [8×2=16]
8. (a) Explain multiport memory organization with a neat sketch.
 (b) Explain system bus structure for multiprocessors with a neat sketch. [8+8]
