

II B.Tech I Semester(R05) Supplementary Examinations, May/June 2010**COMPUTER ORGANIZATION**

(Common to Computer Science & Engineering, Information Technology and Computer Science & Systems Engineering)

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain the terms compiler, linker, assembler, loader and describe how a C program or any other high level language program is executed in a system. Indicate entire process with a figure.
(b) Distinguish between high level and low level languages?. What are the requirements for a good programming language? [16]
2. . Design a circuit to increment, decrement, complement and clear a 4 bit register using RS flip-flops. Explain the control logic. [16]
3. (a) Explain nanoinstructions and nanometry. Why do we need them? [8]
(b) Describe advantages and disadvantages of horizontal and vertical microcoded systems. [8]
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. Explain the following Cache Mapping Techniques
(a) Direct Mapping
(b) Set Associative Mapping. [8+8]
6. (a) Explain bit oriented and character oriented protocols in serial communication
(b) What are the different issues behind serial communication? Explain. [8+8]
7. Explain three segment instruction pipeline. Show the timing diagram and show the timing diagram with data conflict. [16]
8. (a) Explain serial arbitration (Daisy Chain).
(b) Explain parallel arbitration. [8+8]
