Code No: R05310201 **Set No. 1**

III B.Tech I Semester Regular Examinations, November 2007
COMPUTER ORGANISATION
(Common to Electrical & Electronic Engineering, Electronics & Communication Engineering, Electronics & Instrumentation Engineering, Electronics & Control Engineering and Electronics & Telematics)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Discuss about Flynn's classification of computers.
   (b) Explain about communication topologies used in multiprocessors. [16]

2. Write about direct, indirect, register direct, register indirect, immediate, implicit, relative, index, and base address mode of addressing. Why do we need so many addressing modes? Is the instruction size influenced by the number of addressing modes which a processor supports? State whether the number of addressing modes will be more in RISC or CISC? [16]

3. (a) Why do we need subroutine register in a control unit? Explain. [8]
   (b) Explain nanoinstructions and nanometry. Why do we them? [8]

4. Explain the computational errors. Why do they occur?. Give some problems where these errors are catastrophic. Also, give some practical examples (algorithms) where error gets
   (a) accumulated and
   (b) multiplies. [16]

5. Explain the following with applications for each:
   (a) ROM
   (b) PROM
   (c) EPROM
   (d) EEPROM. [4+4+4+4]

6. Explain the following:
   (a) Isolated Vs Memory mapped I/O
   (b) I/O Bus Vs Memory Bus
   (c) I/O Interface
   (d) Peripheral Devices. [4+4+4+4]

7. (a) What is pipelining? Explain. [8]
   (b) Explain four segment pipelining. [8]

8. (a) Explain multiport memory organization with a neat sketch.
   (b) Explain system bus structure for multiprocessors with a neat sketch. [8+8]

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