JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech I Semester Examinations, October/November 2011
COMPUTER ORGANIZATION
(COMPUTER SCIENCE AND ENGINEERING)

Time: 3hours   **Max. Marks: 60**

Answer any five questions
All questions carry equal marks
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1.a) Discuss about various error detection codes used in respect of computer data.
  b) Discuss in detail about 16-bit, 32-bit and 64-bit floating point representation.
  c) With an example, explain Booth's algorithm for 8-bit binary multiplication. [12]

2.a) With examples, discuss about the following micro operations.
   i) Arithmetic
   ii) Logic
   iii) Shift.
  b) With neat diagrams, describe the STACK organization in a computer. [12]

3.a) With a neat diagram, discuss about the design of a hard wired control unit.
  b) Discuss about address sequencing in a micro programmed control unit.
  c) Describe a micro program with an example. [12]

4.a) What are the conditions of parallelism.
  b) Discuss about performance metrics and measures.
  c) Discuss in detail about scalability analysis and approaches. [12]

5.a) Describe the cache memory accessing techniques with necessary diagrams.
  b) What is RAID? Explain about working of RAID. [12]

6.a) Explain in detail about various Asynchronous data transfer modes. Compare them with respect to their merits and demerits.
  b) Describe the following serial communication protocols briefly.
   i) RS232
   ii) USB
   iii) IEEE 1394. [12]

7.a) What is pipelining? Discuss about a RISC pipeline.
  b) Write short notes on vector processing. [12]

8.a) Describe the characteristics of multiprocessors.
  b) Discuss in detail about cache coherence and synchronization mechanisms.
  c) Discuss about principles of multi threading. [12]

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