Code: R7310402

R7

B.Tech III Year I Semester (R07) Supplementary Examinations, May 2013
COMPUTER ORGANIZATION
(Common to ECE, EIE and E.Con.E)

Time: 3 hours   Max Marks: 80

Answer any FIVE questions
All questions carry equal marks
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1   What are functional units? Discuss in detail about basic functional units of a computer?

2 (a)   Explain the three-state bus buffer with a suitable example.
   (b)   Explain about memory transfer with an example.

3 (a)   Draw flow chart of instruction cycle.
   (b)   Draw flow chart of single bus organization processor.

4   Draw and explain flow-chart for addition and subtraction operation.

5 (a)   What is a bootstrap loader? Where is it stored and why?
   (b)   An address space is specified by 24 bits and the corresponding memory space by 16 bits.
         (i) How many words are there in the address space?
         (ii) How many words are there in the memory space?
         (ii) If a page consists of 2K words, how many pages and blocks are there in the system?

6 (a)   Draw the block diagram of an asynchronous communication interface and explain its operation.
   (b)   Why does DMA have priority over the CPU when both request a memory transfer?

7   Discuss about the two areas of computer design where the pipeline organization is applicable.

8 (a)   What is multiprocessing? Explain its benefits.
   (b)   Explain serial arbitration and parallel arbitration procedures in detail.

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