Code No: **R32052**    **R10**    Set No. 1

III B.Tech II Semester Supplementary Examinations, April - 2018
**COMPUTER ARCHITECTURE**
(Computer Science and Engineering)

**Time: 3 hours**                                                          **Max. Marks: 75**

**Answer any FIVE Questions**
**All Questions carry equal marks**
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1  a)  Explain in detail the various Elements of Modern Computers.                    [8M]
   b)  Explain about SIMD Supercomputers. Differentiate it from MIMD computers      [7M]

2  a)  What is virtual memory? Explain about virtual machines in detail.            [8M]
   b)  Explain about Memory capacity planning.                                      [7M]

3  a)  Explain instruction sequencing in detail.                                    [7M]
   b)  Describe role of performance in memory accessing w.r.t following             [8M]
        i)Inclusion          ii)Coherence

4  a)  Describe the data path and control considerations for pipelining             [8M]
   b)  What are various phases in execution of Instructions? Explain.                [7M]

5  a)  Discuss Hierarchical Bus Systems in detail.                                   [8M]
   b)  Explain Cray Y-MP 816 System Organization in detail.                         [7M]

6  a)  Explain Snoopy Bus Protocols.                                                 [7M]
   b)  Explain the merits and demerits of following                                 [8M]
        i)Store and forward Routing   ii)Wormhole routing

7  a)  Explain Inter processor communications.                                      [7M]
   b)  Explain the CM-2 Architecture with necessary block diagram.                  [8M]

8  a)  Differentiate Structural Parallelism and Instruction Level Parallelism.      [7M]
   b)  Explain                                                                      [8M]
        i) Cray XT Supercomputers   ii) PowerPC Architecture

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