

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**

- 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
