

Code: R7410504**R07**

IV B.Tech I Semester (R07) Supplementary Examinations, May 2012

ADVANCED COMPUTER ARCHITECTURE

(Computer Science and Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain the technology trends of computer design.
(b) Explain the quantitative principles of computer design.
2. (a) Discuss the ways addresses are specified by instructions. i.e., addressing modes.
(b) Explain the structure of recent compilers.
3. (a) What is instruction-level parallelism?
(b) Explain about data dependences, hazards and control dependences.
4. (a) What is meant by static branch protection? Explain briefly.
(b) What is VLIW approach?
5. (a) How to evaluate the average memory access time and processor performance?
(b) Briefly explain about virtual memory.
6. (a) What is synchronization? Explain synchronization performance challenges.
(b) What is multi threading? Explain.
7. What is the average time to read or write a 512 byte sector for disk? The advertised average seek time is 5 ms, the transfer rate is 40 MB/sec, it rotates at 10,000 RPM and the controller overhead is 0.1ms. Assume the disk is idle so that there is no queuing delay. In addition, calculate the time assuming the advertised seek time is three times longer than the measured seek time.
8. (a) What is meant by inter connection networks? With example explain it.
(b) Which media are available to connect computer together? Explain.
