R07

Code: R7421901

B.Tech IV Year II Semester (R07) Supplementary Examinations January 2014
ADVANCED COMPUTER ARCHITECTURE
(Electronics & Computer Engineering)

Time: 3 hours   Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

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1 (a) What are quantitative principles of computer design?
   (b) What is benchmark? Explain various benchmark suites.

2 (a) Explain various instruction set architecture.
   (b) Write a note on various types and sizes of operands using in instruction set design.

3 (a) What is CPI? How to calculate pipeline CPI?
   (b) What is data hazard? Explain various hazards in ILP.

4 (a) Give a brief summary on loop unrolling and scheduling with example.
   (b) Explain how more parallelism can achieve at compiler time using hardware.

5 (a) How to calculate cache performance? Explain various cache optimization categories.
   (b) Explain segmented virtual memory with example.

6 (a) What are the basic schemes for enforcing coherence?
   (b) Explain directory-based cache-coherence protocols.

7 (a) Give a brief discussion on RAID.
   (b) Explain bench marks of storage performance and availability.

8 (a) Write a note on interconnection networks and clusters.
   (b) How optical fiber network acting like transmission medium? Explain with neat diagrams.

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