ROLL NO.....

2007 ANDHRA UNIVERSITY

B.TECH COMPUTER SCIENCE ENGINEERING
III B.TECH I SEMESTER
COMPUTER ARCHITECTURE

TIME : 3 HOUR
MARK : 70

- First Question Is Compulsory
- Answer Any Four From The Remaining Questions
- All Questions Carry Equal Marks
- Answer All Parts Of Any Question At One Place

1. a) What do you understand by computational models?

b) Distinguish between Pipelining and Replication

c) What are data dependencies between instructions?

d) What is delayed branching?

e) Write the major difference between pipelined processors and superscalar processors.

f) What do you understand by The Hypercube?

g) What is software pipelining?

2. a) Describe the various levels of abstraction of architectures and computer systems.

b) What is a Design space? Explain how do you represent it by DS-trees

3. a) Summarize all forms of parallelism that can be exploited at different processing levels of a computer system, including both uniprocessor and multiprocessor approaches.

b) What are the relationships between Languages and parallel architectures?

4. a) Give the pipelined instruction processing in the Pentium

b) Explain the concept of Instruction scheduling in ILP-processors.

5. a) Write clearly the instruction issue policies of scalar processors.

b) What is Register renaming? Explain with suitable example.

6. Explain various branch prediction schemes with examples.

7. a) Write the principles of VLIW architectures

b) Describe the various connectivity issues of data-parallel computers

8. Write short notes on the following:

a) Application Scenarios of Pipelines

b) Instruction Dispatch Scheme

c) The Reorder Buffer (R)OB)
d) MIMD Architectures

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