



- (b) (i) Discuss the issues to be considered while designing the ISA of a processor.
  - (ii) How do you evaluate and compare the performance of processors?
12. (a) What are the various hazards that may arise in a pipelined implementation? How do you handle them?

Or

- (b) Discuss the Tomasulo's dynamic scheduling technique along with the data structures used.
13. (a) (i) Discuss the static branch prediction schemes commonly used.- (ii) Compare and contrast loop unrolling and software pipelining with a suitable example.

Or

- (b) (i) Compare the VLIW and super scalar approaches to ILP.
  - (ii) What is meant by predication? Discuss its uses and limitations.
14. (a) Explain using state diagrams, the snoop-based cache-coherence protocol for write-back caches.

Or

- (b) Explain using state diagrams, the directory-based cache-coherence protocol for write-back caches.
15. (a) Discuss the architecture of data flow computer systems.

Or

- (b) Write notes on :
    - (i) Stack processors and
    - (ii) SCSI standard.
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