





12. a) Appraise with an example the use of simple compiler technology to enhance a processor's ability to exploit instruction level parallelism. (16)
- (OR)
- b) How data hazards can be overcome with dynamic scheduling? Appraise with an example. (16)
13. a) Explain with a diagram the basic structure of a vector processor. (16)
- (OR)
- b) i) Present an outline of graphical processing units. (8)
- ii) Explain loop level parallelism with an example. (8)
14. a) i) What is a multiprocessor? Explain with a diagram the basic structure of a symmetric shared-memory multiprocessor. (8)
- ii) Explain how to implement synchronization in a multiprocessor using a set of hardware primitives with the ability to atomically read and modify a memory location. (8)
- (OR)
- b) Explain with an example sequential consistency model and relaxed consistency model for memory consistency. (16)
15. a) Explain with an example any two techniques for improving the cache performance by reducing the miss rate. (16)
- (OR)
- b) What is RAID? Explain the different levels of RAID. (16)