# 21 Lecture - CS501

# **Important Mcqs**

## 1. What is Instruction Level Parallelism (ILP)?

a) The ability to execute multiple threads in parallel

b) The ability to execute multiple instructions in parallel

c) The ability to execute multiple processes in parallel

d) The ability to execute multiple programs in parallel

Solution: b) The ability to execute multiple instructions in parallel

#### What are the benefits of ILP?

- a) Improved performance
- b) Reduced power consumption
- c) Increased security
- d) All of the above

Solution: a) Improved performance

#### Which of the following is a challenge of ILP?

- a) Data dependencies between instructions
- b) Limited availability of resources
- c) Slow clock speed
- d) None of the above

Solution: a) Data dependencies between instructions

#### Which of the following techniques can be used to overcome the challenges of ILP?

- a) Instruction scheduling
- b) Register renaming
- c) Speculative execution
- d) All of the above

Solution: d) All of the above

#### What is superscalar processing?

- a) A technique for exploiting ILP
- b) A technique for exploiting TLP
- c) A technique for reducing power consumption
- d) A technique for reducing memory latency

Solution: a) A technique for exploiting ILP

#### What is dynamic scheduling in the context of ILP?

- a) A technique for predicting branch outcomes
- b) A technique for issuing and executing instructions out of order
- c) A technique for reducing data dependencies between instructions
- d) A technique for reducing memory latency

Solution: b) A technique for issuing and executing instructions out of order

#### What is speculation in the context of ILP?

a) A technique for predicting branch outcomes

- b) A technique for issuing and executing instructions out of order
- c) A technique for reducing data dependencies between instructions
- d) A technique for reducing memory latency

Solution: a) A technique for predicting branch outcomes

#### How does pipelining relate to ILP?

- a) Pipelining is a technique for exploiting TLP
- b) Pipelining is a technique for exploiting ILP
- c) Pipelining is a technique for reducing power consumption
- d) Pipelining is a technique for reducing memory latency

#### Solution: b) Pipelining is a technique for exploiting ILP

### Which of the following is not a technique used to overcome the challenges of ILP?

- a) Instruction scheduling
- b) Register renaming
- c) Static branch prediction

d) Speculative execution

Solution: c) Static branch prediction

#### What is the role of the compiler in ILP?

- a) To optimize code to reduce data dependencies between instructions
- b) To optimize code to exploit available parallelism
- c) To generate machine code for the processor

d) All of the above

Solution: d) All of the above