

**FIT1005**  
**Networks and Data Communications**  
**Tutorial – Week 10**

**Objective of this tutorial:**

The purpose of this tutorial is two folds. Firstly, to make students focus on the physical layer implementation in LANs (IEEE 802.3 standard). Secondly, to reflect on some issues of CSMA/CD medium access control technique used in LANs.

**How to participate in the tutorial:**

Form groups of four students in each and discuss the answers for the following reflective questions with the group members. After spending about 15-20 minutes for each question, discussing with group members, discuss your solutions with the tutor and other groups. The tutor will provide feedback on your solutions.

**Revision questions:**

1. The IEEE 802.3 committee has developed the following concise notation to distinguish the physical layer medium alternatives.

<data rate in Mbps><signalling method><maximum segment length in hundreds of meters>

Accordingly, distinguish between 10BASE5, 10BASE2, 10BASE-T, and 10BASE-F.

2. What are the physical layer medium alternatives used for Fast Ethernet?
3. One of the strengths of the Fast Ethernet approach is that it readily supports a mixture of existing 10-Mbps LANs and newer 100-Mbps LANs. Elaborate on this.

**Reflective questions:**

1. It requires finding an effective value for p in p-persistent CSMA. Elaborate on this.
2. In IEEE 802.3 standard, the algorithm used for CSMA/CD LAN is 1-persistent. Discuss the possible reasons for this selection.