

## **CS010 804L06 : Advanced Networking Trends**

### **Module 1 (12 hours)**

Ethernet Technology – Frame format – Interface Gap – CSMA/CD – 10 mbps

Ethernet, Fast Ethernet, Gigabit Ethernet, Wire

less Ethernet.

ISDN - Definition - Protocol architecture - System architecture - Transmission

channels - ISDN interface, B-ISDN.

### **Module 2 (12 hours)**

ATM – ATM Principles – BISDN reference model – ATM layers – ATM adaption

Layer – AAL1, AAL2, AAL3/4, AAL5 – ATM addressing – UNI Signaling – PNNI

Signaling

### **Module 3 (12 hours)**

Wireless LAN – Infrared Vs Radio transmission – Infrastructure & ad hoc n/w –

IEEE 802.11 – Physical Layer – MAC layer.

Bluetooth – Physical Layer – MAC layer – Networking - Security

### **Module 4 (12 hours)**

Mesh Networks- Necessity for Mesh Networks – MAC enhancements – IEEE

802.11s Architecture –Opportunistic Routing – Self Configuration and Auto

Configuration - Capacity Models –Fairness – Heterogeneous Mesh Networks –

Vehicular Mesh Networks

### **Module 5 (12 hours)**

Sensor Networks- Introduction – Sensor Network architecture – Data Dissemination –

Data Gathering –MAC Protocols for sensor Networks – Location discovery – Quality

of Sensor Networks– Evolving Standards – Other Issues – Recent trends in

Infrastructure less Networks

### **References**

1. An introduction to Computer Networking - Kenneth C Mansfield, Jr., James L. Antonakos, PHI
2. Communication Networks Fundamental Concepts & Key Architecture - Leon-Garcia – Widjaja, Tata McGraw Hill
3. Mobile Communication - Jochen Schiller, Pearson Education Asia
4. C. Siva Ram Murthy and B.S.Manoj, “Ad hoc Wireless Networks – Architectures and
5. Protocols’, Pearson Education, 2004
6. C.K.Toh, “Adhoc Mobile Wireless Networks”, Pearson Education, 2002.