Subject Title: Corporate Networking

Subject Code: EIE429 (for 42077)

Number of Credits: 3

Hours Assigned: Lecture/tutorial 39 hours
Laboratory 3 hours
(Equivalent to 9 laboratory hours)

Pre-requisite: nil
Co-requisite: nil

Exclusion: Corporate Communication Networks (EIE439)

Objectives:

Telecommunication and computer networking technologies have been advancing rapidly in recent years. New technologies have been developed, and new economic orders have been built. Against this background, this subject is designed to:

1. Give a practical treatment on the design, implementation and management of multinational corporate networks.
2. Introduce the variety of facilities, technologies and communication systems to meet future needs of network services.
3. Discuss in details network planning, management, marketing, performance and security issues.
4. Evaluate critically the performance of existing and emerging global communication networking technologies and their impact on enterprise and world economy.

Student Learning Outcomes:

On successful completion of this subject, the students will be able to:

Category A: Professional/academic knowledge and skills
1. Describe the operational, marketing, functional attributes of different components of enterprise networks [1,2]
2. Evaluate critically the design, implementation, and performance of enterprise networks with regard to different criteria [1,3,4]
3. Design enterprise networking solutions by taking into account various constraints and requirements [1,2,3]

Category B: Attributes for all-roundedness
4. Develop a global outlook by recognizing the effect of advancement in communication technologies on business opportunity and world economic, social and cultural development [4]
5. Think and evaluate critically [3,4]
6. Take up new technology for life-long learning [2,4]
7. Present ideas and findings effectively [3]
8. Work in a team, and collaborate effectively with other members [4]

Syllabus:

1. Communication Networks and their Features
   Global networks, enterprise networks, private networks, network topology and optimization, network evolution strategy.

2. Protocols and Technologies
   WAN protocols, Virtual Local Area Network, IP Switching and MPLS, Metro Ethernet WAN, Voice over IP, Softswitch.

3. Network Security

4. Traffic Theory and Marketing
   Teletraffic theory, tariff and cost analysis, deregulations.

Laboratory Experiments:

1. Voice over IP experiment and softswitch.
3. LAN switching management.

Method of Assessment:
Continuous Assessment: 50% Examination: 50%

Textbook:

Reference Books: