ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD
(Department of Computer Science)

Course: Networking Strategy (3476)   **Semester: Autumn, 2012**
Level: Bachelor   **Total Marks: 100**

ASSIGNMENT No. 1

Note: All questions are compulsory and carry equal marks.

Q. 1 a) How can you classify signals with respect to values, certainty and duration?
   b) Describe what is modulation? Also explain amplitude modulation and its various types and usage.

Q. 2 a) Define Noise. What are the main sources of noise? Also explain white noise.
   b) Describe the error control techniques. Also describe the working mechanism of Cyclic Redundancy Check (CRC).

Q. 3 a) Define Data Terminal Equipment (DTE). Also describe the components include in DTE.
   b) Describe the synchronization process of DTE and DCE in detail.

Q. 4 a) What is a bottleneck and throughput? What is their importance in data communication?
   b) What is time division multiplexing? Also explain their sublevel with examples.

Q. 5 a) Define digital cross-connection systems. In detail.
   b) What are ATM switch components? Also describe the tasks performed by each component.

ASSIGNMENT No. 2

Total Marks: 100

Note: All questions are compulsory and carry equal marks.

Q. 1 a) What are the characteristics of regional network? Elaborate.

b) Define Fiber Distributed Data Interface Network (FDDI). Also describe the configuration and operation of such network.

Q. 2 a) Describe the importance of wireless network in detail.

b) What is communication satellite? Also discuss the features of communication satellite.

Q. 3 What is meant by wireless information systems? What is its importance in wireless digital communication system?

Q. 4 Discuss the advantages and disadvantages of switched network. Describe the model of private network that includes public network.

Q. 5 a) Discuss the current issues and challenges related to security in managing a network.

b) What is cryptosystem? How key management occurred in secured environment? Elaborate.

3476 Networking Strategy   Credit Hours: 3(3 + 0)

Recommended Book: *Premier Telecommunications "Signals, Building Blocks and Network" by E. Brayan Carne*

Course Outlines:
Unit#1 Basic Concepts of Signals & Voice
      Signal Classifications
      Bandwidth and Passband
      Modulation, Noise, Speech & Music
      Digitizing Voice and Video Signals

Unit#2 Data encoding Concepts
      Binary Codes, Error Control, Data Compression
      Data Encryption, Binary Signals, Low Speed Data, Digital Modulations

Unit#3 Data Communication and Protocols
      Connections, Communications Procedures, Open System Architecture
      Electronic Meetings

Data Link Protocols, X.25 protocols, Transport and layer protocols, throughput

Unit#4 Multiplexing and Switching
Types of multiplexing, T-Carrier Multiplexing
Sonet and SDH, Circuit Switching
Packet and Cell Switching

Unit#5 Regional Network
Local and long distance networks
Integrated services digital network
Intelligent networks, Broadband ISDN
Local Area Networks, Bus connected networks, Ring connected networks

Unit#6 Wireless Networks
Packet Networks,
Satellite Networks, Cellular Mobile radio telephone service
Wireless information Systems

Unit#7 Enterprise Networks
Company networks, Switched Networks
Limited Connection networks

Unit#8 Network Management
Network Management
Message security, Information Privacy
Traffic Engineering and its applications

Unit#9 Case Study (Network)

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