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

WARNING

1. **PLAGIARISM OR HIRING OF GHOST WRITER(S) FOR SOLVING THE ASSIGNMENT(S) WILL DEBAR THE STUDENT FROM AWARD OF DEGREE/CERTIFICATE, IF FOUND AT ANY STAGE.**
2. **SUBMITTING ASSIGNMENTS BORROWED OR STOLEN FROM OTHER(S) AS ONE'S OWN WILL BE PENALIZED AS DEFINED IN "AIOU PLAGIARISM POLICY".**

Course: Networking Strategy (3476) **Semester: Autumn, 2013**
Level: Bachelor **Total Marks: 100**

ASSIGNMENT No. 1

Note: All questions carry equal marks.

Q. 1 a) Define signal? Discuss the importance of signals with respect to data communication and network.

b) What is noise? Describe different types of noise.

Q. 2 a) Describe the basics of encryption? Why data encryption is important in the protection of data interception?

b) What is data compression? Describe the modern data compression technique used for video and audio data.

Q. 3 What is throughput? Do analysis of two research paper regarding throughput and submit a research report to your class teacher describing your findings. The report should be up to five pages.

Q. 4 Compare SONET and SDH regarding Farming, data rates, Synchronization, Timing loops. Also describe the advances in next generation SONET and SDH?

Q. 5 What is packet switching? Explain two different approaches of packet switching? Explain these with respect to advance digital networks.

ASSIGNMENT No. 2

Total Marks: 100

Note: All questions carry equal marks.

Q. 1 What type of network offers the highest potential throughput over long distance? Justify your answer with evidence.

Q. 2 What is wireless wide area network? What is its role in the wireless information system? Elaborate.

Q. 3 Elaborate the purpose of restricted network? Why most of the organization adopted this type of network platform? Elaborate.

Q. 4 Describe the basic goals of privacy. Also describe the role of patent in network management.

Q. 5 Take a specific topic in guidance with your teacher. Study 5-7 research papers regarding your topic study these. Then compare their finding in research oriented manner and present to your class in presence of your teacher.

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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