

Fall, 1997
Tsai

Name: _____

**MIS 214 – Fundamental of Data Communication
Exam 2**

Part I: closed book(s) and note(s)

(3 points) I. Name the interface between three local area networks which the first two use the same protocol and the third one uses a different protocol.

1.

(3 points) II. Name the interface between a local area network and wide area network.

1.

(3 points) III. Give the name of the best local area network protocol to be used in an office environment where the traffic is light.

1.

(3 points) IV. Give the name of the best local area network protocol to be used in a manufacturing environment which needs a constant transmission speed.

1.

(3 points) V. Name the architecture to connect several mainframe computers and centralized data processing systems.

1.

(3 points) VI. Name the architecture to connect several minicomputers and distributed data processing systems.

1.

(6 points) VII. Name three error detection methods used in transmitting data between data terminal equipment

1.

2.

3.

(3 points) VIII. Name the layer of Open System Interconnection Model which is not used in a frame relay wide area network.

1.

(6 points) IX. Name the three desirable data link protocols attributes.

1.

2.

3.

(6 points) X. Name the three types of classification for synchronous data link protocols.

1.

2.

3.

(3 points) XI. Name the e-mail protocol which is used to govern communication between mail hosts in USA.

1.

(6 points) XII. Name three types of security needed to be addressed as network management issues.

1.

2.

3.

(2 points) XIII. Name the most safe conversion plan.

1.

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Part II: Open book(s) an Note(s)

(50 points) SAC Computer Inc. began manufacturing computers many years ago. The firm has grown and expanded over the years. Today, SAC Computer is a leader in the field of computer industry. The company designs and builds specialized computer systems for a variety of customers such as banks, hospitals, wholesale and retail business, transportation industry, and manufacturing industry. The company has many divisions located throughout the country. SAC employs thousands of engineers, designers, assembly line workers, supporting personal (accounting, marketing, sales etc.) and managers who need a communication system(s) to make their work easier and more efficient. SAC Computer Inc. has hired you to design a modern and integrated voice and data telecommunication networks in terms of the following requirements:

1. Types of network;
2. Network architecture;
3. Network topologies;

4. Network software;
5. Network hardware;
6. Network protocols;
7. Backbone networks;
8. Network service providers and services;
9. Network security;
10. Communication channels; and

11. Diagram.