KFUPM - COMPUTER ENGINEERING DEPARTMENT
COE-241 – Data and Computer Communication
Quiz 01   Model A

Student Name:

Student Number:

Problem 1 (10 points):

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Source → Trans-mitter → Trans-mission System/ Medium → Receiver → Destination
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Source: Generates signal or data to be communicated

Transmitter: Transforms and/or encodes information to be communicated

E.g. modulation – data encoding

Transmission System/Medium: Transmission line, space, interconnected switching nodes, etc

Receiver: accepts message and undoes transmitter procedures

E.g. demodulation – data decoding

Destination: receives raw signal or data

Problem 2 (15 points):

(-5 points if layers are not ordered in stack)

Physical Layer: Provides service to do "transmission of raw bits"

Data Link Layer: Coverts the raw bit stream service provided by the physical layer to a reliable stream: i.e. Performs error detection and error control
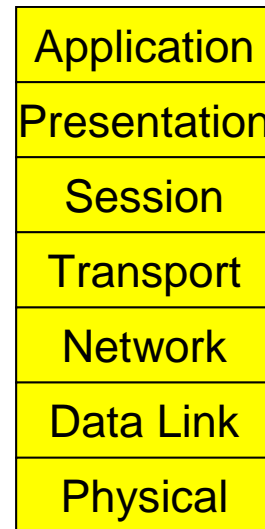
Network Layer: transfer of information between two end systems across communication network – End to end delivery of packets

Transport Layer: mechanism of exchanging data (or messages) between the two end systems

Session Layer: mechanism of controlling the dialogue between applications at end systems Dialogue Discipline, Grouping, & Recovery

Presentation Layer: defines format of data (format, encryption, and compression) to be exchanged between applications

Application Layer: A means for user applications (email, ftp, etc) to access the services provided by the OSI model

Application
Presentation
Session
Transport
Network
Data Link
Physical

Problem 3 (15 points):

(a) Circuit switched communication is a method where a dedicated physical path is created between the two end points. Intermediate (switching) nodes perform no processing. Example: Public switched telephone networks (PSTN).

b) Steps: (1) Call setup, (2) Info exchange, (3) Call termination.