

Department of Electrical
Engineering

Assignment

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Course details

Course title: Data & Computer
Communication

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Part A

1) Flow Control is the regulation of the amount of data that can be sent

- a) Line Control
- 2) Flow control
- 3) Error Control
- 4) All the above

2) Forty five physical change channel link Ten devices arrange in topology

- a) Nine
- 2) Ten
- 3) Twelve
- 4) Fifteen

3) Signal reflection at the taps can cause signal degradation is BUS topology

- a) Ring
- 2) Bus
- 3) Mesh
- 4) Star

4) Session Layer allows process to add synchronization point in to stream of data.

- 1) network
- 2) transport
- 3) presentation
- 4) session

5) if the maximum value of a simple sine wave is 10 volts, the maximum value -10 volts.

- 1) 10
- 2) 5
- 3) square root of 10
- 4) -10

6) Choose the correct association between of device its functionally

- 1) Computer Input
- 2) CPU Input
- 3) LCD Input
- 4) Modem modulation by demodulation

7) Band rate is always less than or equal to the Bit rate.

8) Stop and is a Flow Control technique.

9) A 32 Bit number is unique identified by an IP address and a port number.

10) in Five layer of TCP/IP model port address are defined.

Q1) Pg#4

Part B (subjective type)

Kamran Khan #196990

In terms of OSI Model please explain the role of Shayan, Tariq, Nawaz and Danish below with proper example.

Sender

Andy

Parvez

Shayan

Tariq

Nawaz

Danish

Paul

Receiver

Application layer

Presentation layer

Session layer

Transport layer

Network layer

Data Link layer

Physical layer

Ans!

Shayan As a session layer!
control As session layer is
used to build and / maintain
sessions in a network / system

Farisq as a transports layer!

transport layer provide reliable or
unreliable delivery of data. In
this layer the data is called
segments

Main features are!

- 1) Segmenting
- 2) Sequencing
- 3) Flow control / windowing

Nawaz As a Network layer

Network layer is used for communication in a network using logical addressing i.e. IPv4, IPv6. Data in this layer is called packets.

Danish As data Link layer

Data Link layer is used for communication in a network through MAC address. Data in this layer is called frames.

OSI Layers

Session Layer

Transport Layer

Network Layer

Data Link Layer

Data

User Data

Segments

Packets

Frames

Q No 2

Ans

When the sender sends data to the receiver but the receiver does not receive the complete information as to they are a meaningful because it is produced in a mid are any where distortion due to the following reason.

- 1) signal distortion
- 2) signal attenuation
- 3) noise

Signal distortion!

Signal distortion cause that optical pulses to broaden as they travel along a fiber, the overlap between neighboring pulses, creating errors in the receiver out put. resulting in the limitation of information-carrying capacity of a fibre.

Signal attenuation!

Signal attenuation (Fiber Loss) Largely determines the maximum ~~repeaterless~~ separation between optical transmitter and the receiver.

Noise!

It is be a distortion from the sender to the receiver. noise is a spike come from power line lighting. using high quality medium signal like a fiber optic it is minimized this effect.

Q3 For transmitting huge amount of data over long distance which type of technology we usually use?

Ans 1.

For transmitting huge amount of data over long distance we were used different techniques are the following.

1) Greater Immunity to tapping!

Fiber optic cable are more immune to tapping than the copper cables. Copper cables creates antenna effects that can easily be tapped.

2) Resistance to Corrosive material!

Glass is more resistant to corrosive material than copper.

3) Light weight!

Fiber optic cable are much lighter than copper cables.

4) Immunity to Electromagnetic Interference!

Electromagnetic noise cannot affect by the fiber-optic cable.

5) Less Signal Attenuation!

Fiber optic transmission distance is a significantly greater than that other mediums. A signal can travel for 50 km without receiving regeneration we need a repeater every 5 km for the "coaxial".

6) High Bandwidth!

Fiber optic cable is support dramatically higher bandwidth can hence data rate & bandwidth location over fiber optic cables are limited not by the medium but by the signal generation and reception technology available.