FACULTY OF ENGINEERING & TECHNOLOGY

BCA-302Computer Networks

Lecture-30

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OUTLINE
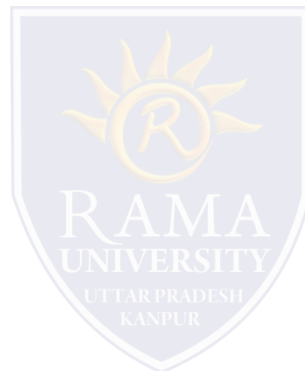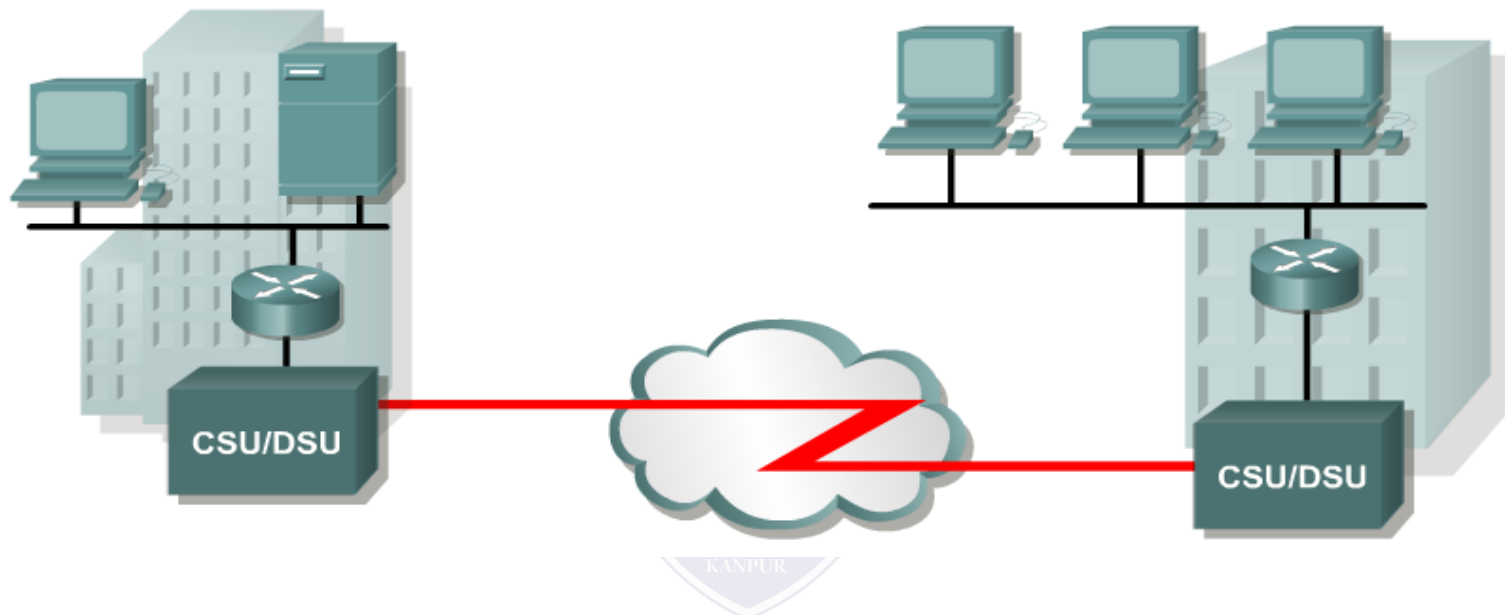
➢**LEASED LINES**

➢**FRAME RELAY**

➢**ATM**

➢**DSL**

➢**CABLE MODEM**
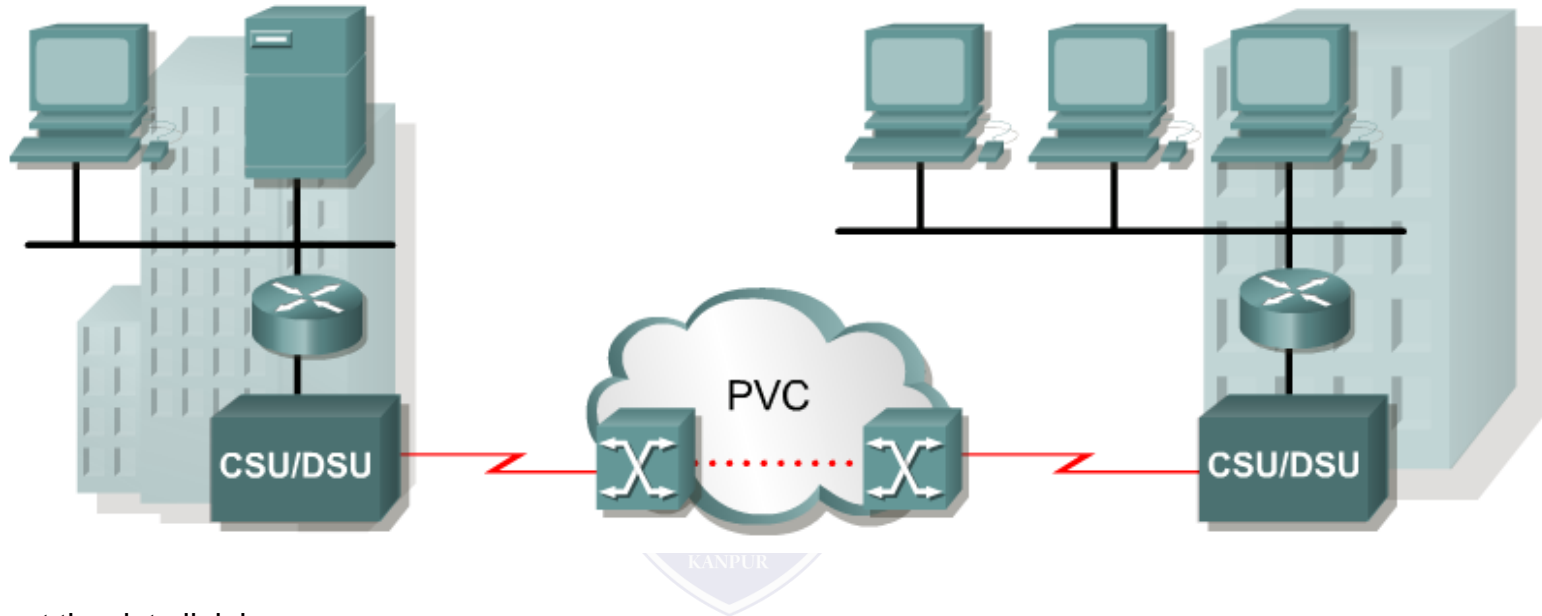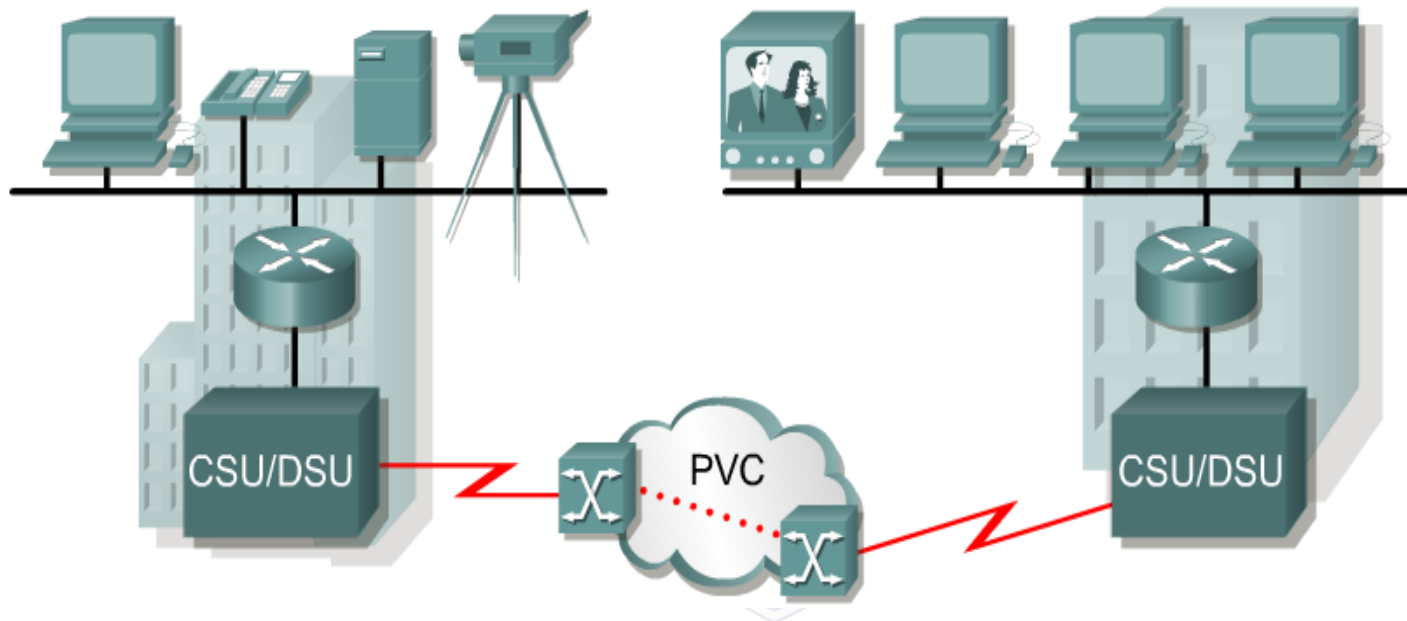
- A point-to-point link provides a pre-established WAN communications path from the customer premises through the provider network to a remote destination.

- Point-to-point lines are usually leased from a carrier and are called leased lines.

- Leased lines are available in different capacities.

- Leased lines provide direct point-to-point connections between enterprise LANs and connect individual branches to a packet-switched network.

FRAME RELAY

- Works at the data link layer.

- Frame Relay implements no error or flow control.

- The simplified handling of frames leads to reduced latency, and measures taken to avoid frame build-up at intermediate switches help reduce jitter.

- Most Frame Relay connections are PVCs

- Frame Relay provides permanent shared medium bandwidth connectivity that carries both voice and data traffic.
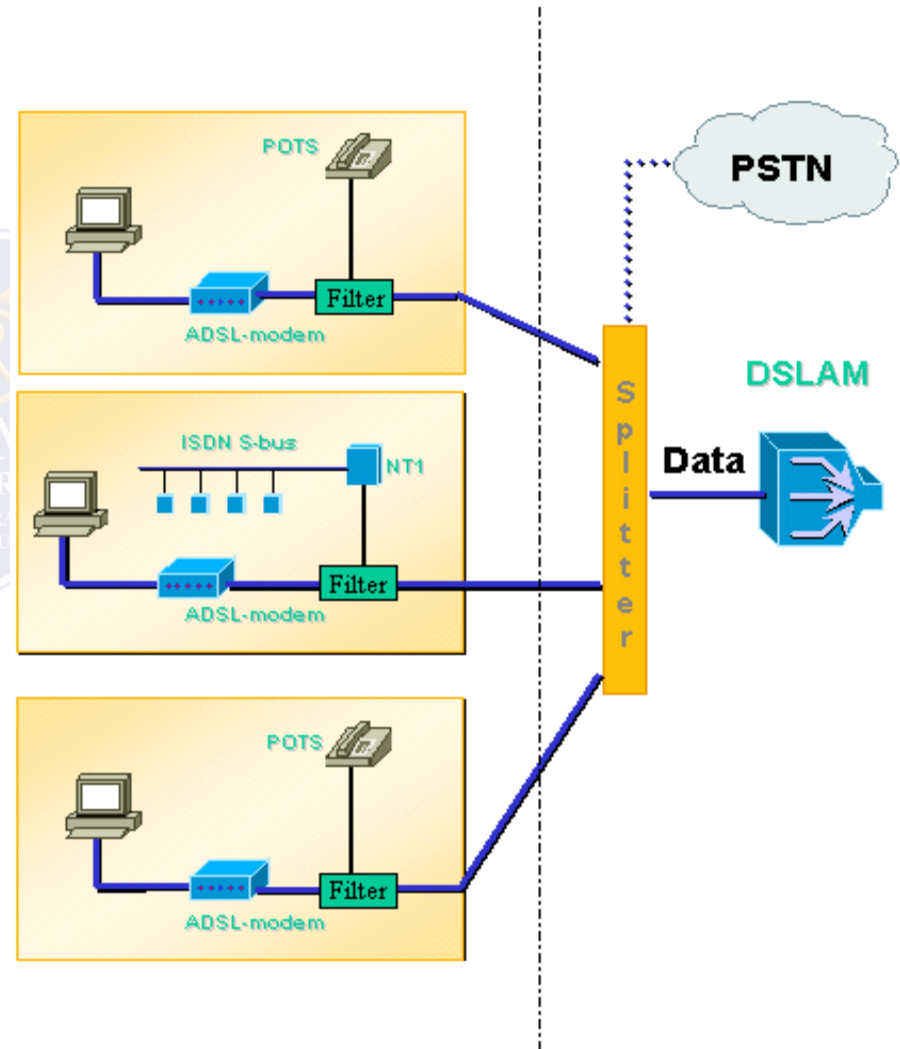
ATM

▪Communications providers saw a need for a permanent shared network technology that offered very low latency and jitter at much higher bandwidths.

▪Their solution was Asynchronous Transfer Mode (ATM). ATM has data rates beyond 155 Mbps.
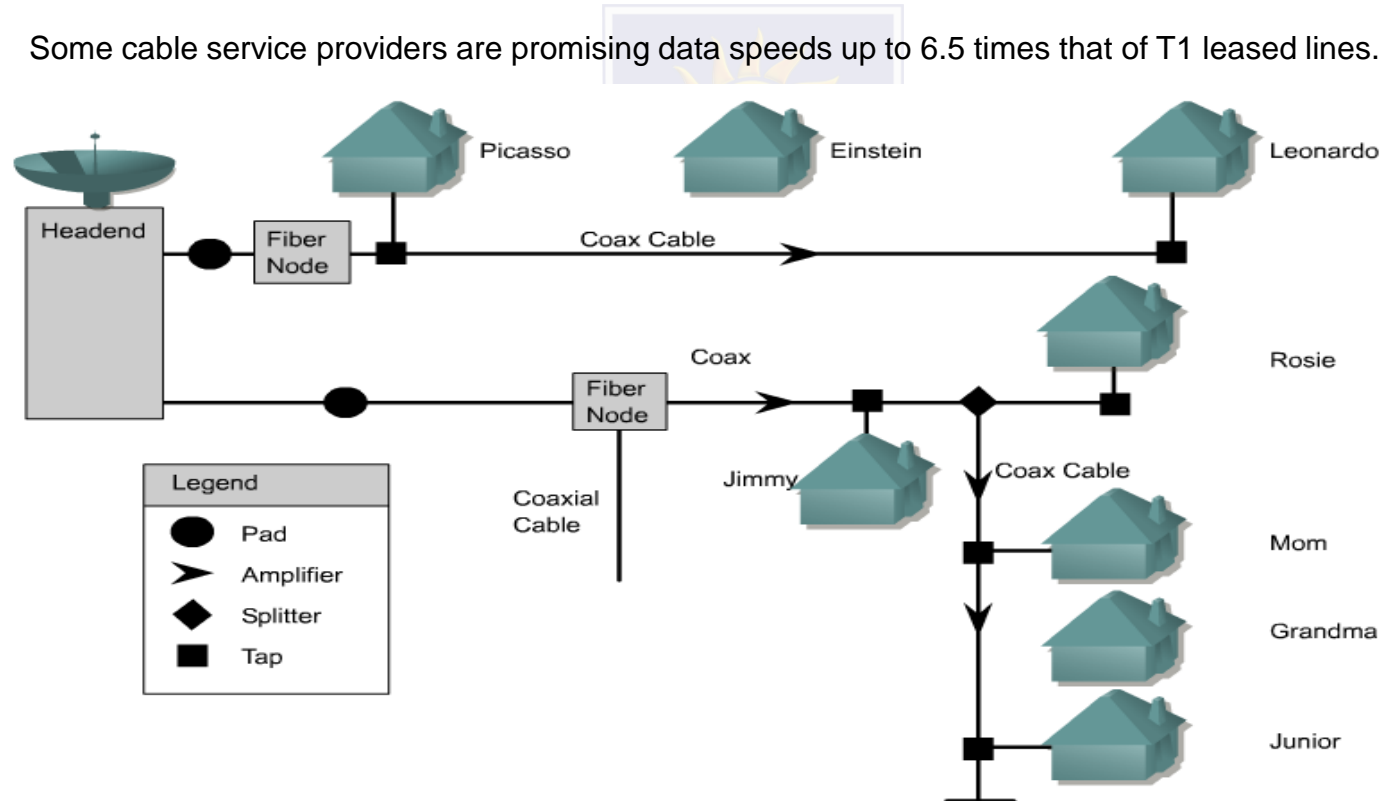
DSL

▪Multiple DSL subscriber lines are multiplexed into a single,

high capacity link by the use of a DSL Access Multiplexer

(DSLAM) at the provider location.

▪DSLAMs incorporate TDM technology to aggregate many

subscriber lines into a less cumbersome single medium,

generally a T3/DS3 connection techniques to achieve data

rates up to 8.192 Mbps.
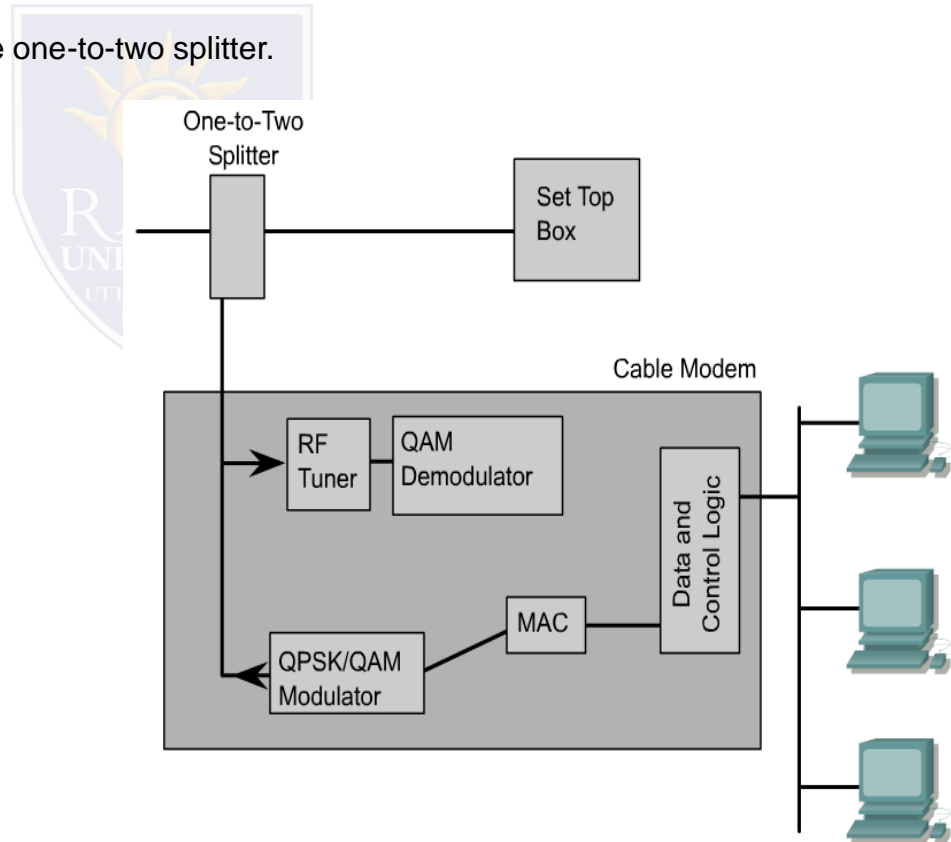
- Coaxial cable is widely used in urban areas to distribute television signals.

- This allows for greater bandwidth than the conventional telephone local loop.

- Enhanced cable modems enable two-way, high-speed data transmissions using the same coaxial lines that transmit cable television.

- Some cable service providers are promising data speeds up to 6.5 times that of T1 leased lines.

▪Cable modems provide an always-on connection and a simple installation.

▪A cable modem is capable of delivering up to 30 to 40 Mbps of data on one 6 MHz cable channel.

▪With a cable modem, a subscriber can continue to receive cable television service while simultaneously receiving data to a personal computer.

▪This is accomplished with the help of a simple one-to-two splitter.

10BASE-T Port

USB Port

Cable Connection

One-to-Two Splitter

Set Top Box

Cable Modem

RF Tuner

QAM Demodulator

Data and Control Logic

MAC

QPSK/QAM Modulator

MUTIPLE CHOICE QUESTIONS:

Sr no	Question	Option A	Option B	OptionC	OptionD
1	In HTTP pipelining _____	multiple HTTP requests are sent on a single TCP connection without waiting for the corresponding responses	multiple HTTP requests can not be sent on a single TCP connection	multiple HTTP requests are sent in a queue on a single TCP connection	multiple HTTP requests are sent at random on a single TCP connection
2	FTP server listens for connection on port number _____	20	21	22	23
3	In FTP protocol, client contacts server using _____ as the transport protocol.	transmission control protocol	user datagram protocol	datagram congestion control protocol	stream control transmission protocol
4	The File Transfer Protocol is built on _____	data centric architecture	service oriented architecture	client server architecture	connection oriented architecture
5	In File Transfer Protocol, data transfer cannot be done in _____	stream mode	block mode	compressed mode	message mode

- http://www.engppt.com/2009/12/networking-fourozan-ppt-slides.html