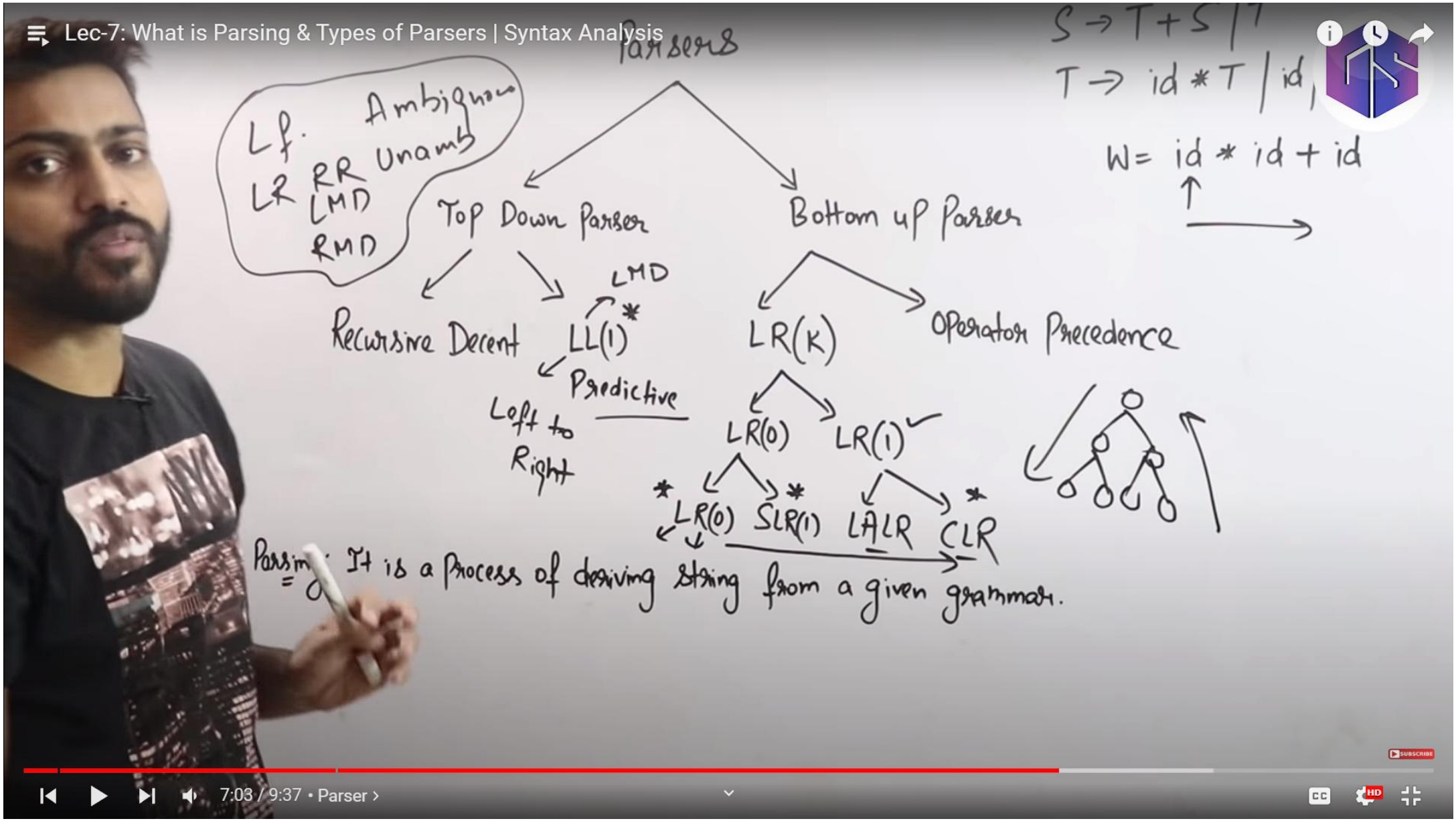
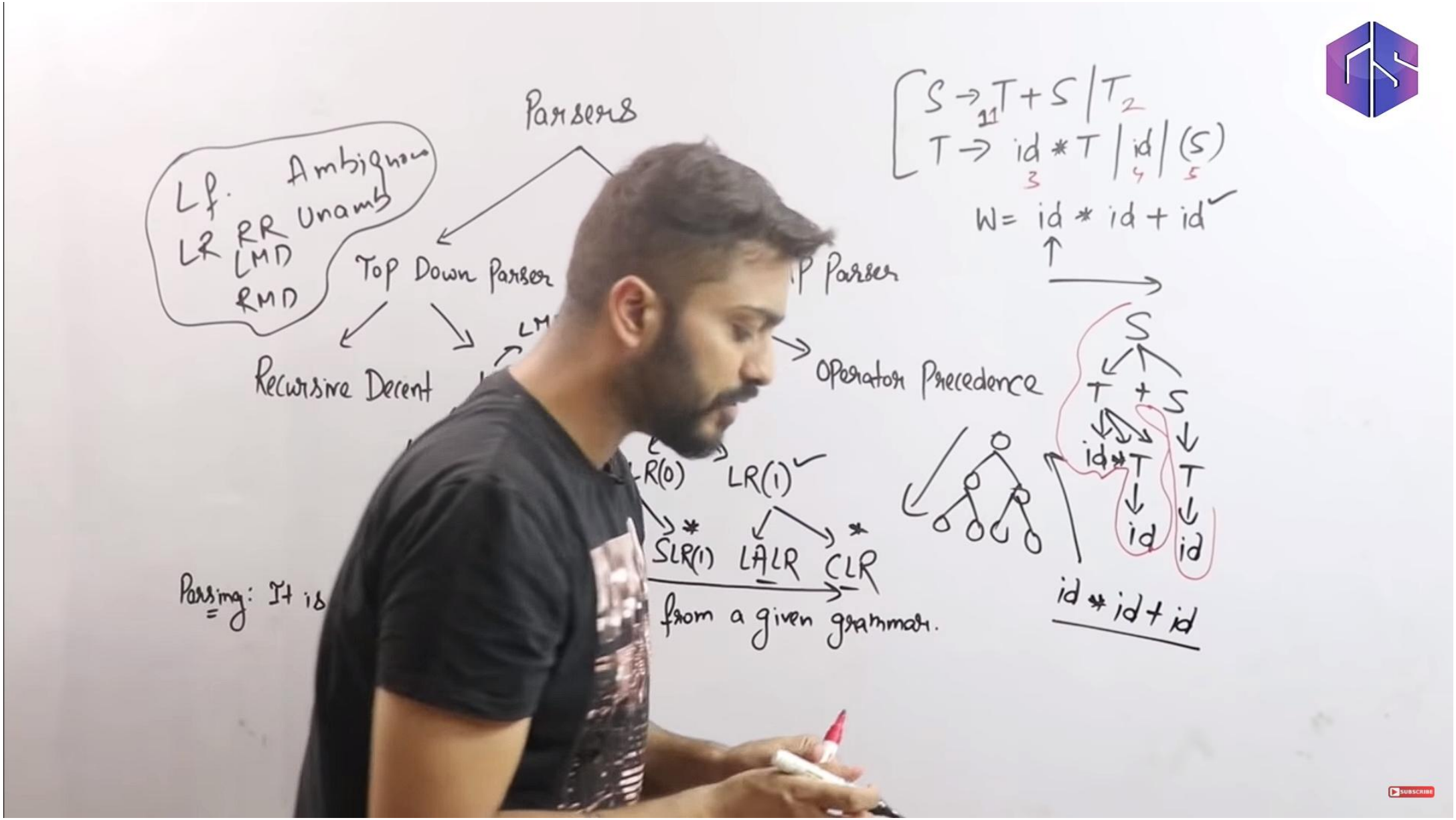
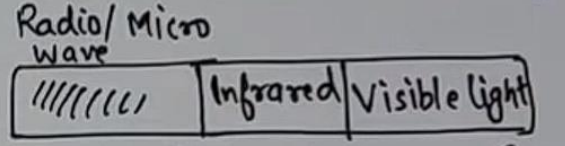

Lec-7: What is Parsing & Types of Parsers | Syntax Analysis
Parsers
Lf. Ambiguous
LR RR Unamb
LMD
RMD
Top Down Parser
Bottom up Parser
LMD
Recursive Decent
LL(1)
Predictive
Left to Right
LR(K)
Operator Precedence
LR(0)
LR(1)
LR(0)
SLR(1)
LALR
CLR
S → T + S | T
T → id * T | id
W = id * id + id
Parsing: It is a process of deriving string from a given grammar.
7:03 / 9:37 • Parser ›


Parsers
Lf. Ambiguous
LR RR Unamb
LMD
RMD
Top Down Parser
Recursive Decent
Operator Precedence
LR(0)
LR(1)
SLR(1)
LALR
CLR
Parsing: It is
from a given grammar.
S → T + S | T
T → id * T | id | (S)
W = id * id + id
id * id + id
SUBSCRIBE

Data Communication and Networking

Types of wireless Media

(i) MICRO WAVE (Terrestrial Microwave) :- Are used to transmit data without the use of Cables. In this parabolic antennas are mounted on the towers to send a beam to another antennas KMs away.



→ Higher the tower → Greater is the Range.

→ Eg. of LOS transmission.
↳ LINE OF SIGHT.

→ Frequency Range = 4-6 GHz and 21-23 GHz

→ Bandwidth = 1 to 10 mbps.

→ SHort distance = Inexpensive

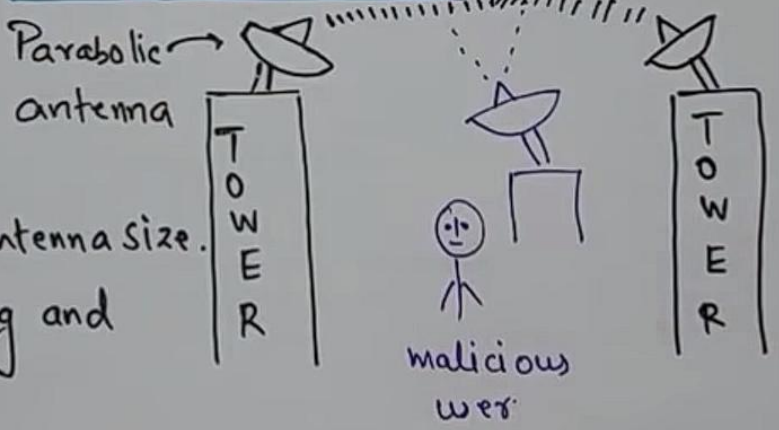
→ Long distance = Relatively expensive

→ AHenuation = affected by env. Cond^n, antenna size.

→ Effect on Signal = EMI affect, jamming and eavesdropping.

Characteristics

RF LINK (MICROWAVE LINK)



Data Communication and Networking

Types of wireless Media

Advantages of MICROWAVE LINK:-

(i) Cheaper than using Cables.
(ii) Freedom from land acquisition.
(iii) Ease of Comm^n in difficult terrains.
(iv) Comm^n over oceans.

Disadvantages:-

(i) Insecure Comm^n.
(ii) out of phase signal.
(iii) Susceptable to weather Cond^n
(iv) Bandwidth limited.
(v) Cost of design, imp., maintenance is high.

(ii) RADIO WAVE:- It uses Radio frequencies b/w 10 KHz to 1 GHz for transmission.

Types of Radio Wave:-

[Continuous Sine Waves].

↳ i) SHORT WAVE → AM Radio
ii) VHF (Very high freq.) → FM radio / TV
iii) UHF (Ultra high freq.) → TV.

Radio Wave → Transmitter (Encoding)
Radio Wave → Receiver (Decoding)

Advantages:-

(i) offers mobility.
(ii) Cheaper than Cables
(iii) Freedom from land acquisition
(iv) Ease of Comm^n in difficult terrain.

Disadvantages:-

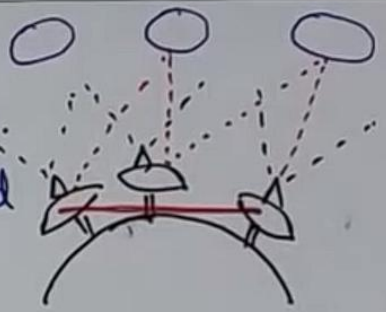
(i) Insecure Comm^n
(ii) Susceptible to weather Cond^n.

Types

ess
edia

(iii) Satellite Microwave:- It is a special case of Microwave Relay System.

↳ uses the Synchronous Satellite to relay the radio signal transmitted from Ground Station.



↳ Earth Station Consists of Satellite dish that func^{n} as an antenna.

↳ TRANSPONDERS:- devices in Satellite to receive and transmit the signal.

Advantages:-

i) Area Coverage is Very large.
ii) Ease of installing
iii) Commercially attractive
iv) Cover large area of earth.

Disadvantages:-

i) Technological limitation.
ii) Overcrowding of available B/W.
iii) COST ↑
iv) High atmospheric loss above 30GHz.

Data Communication and Networking

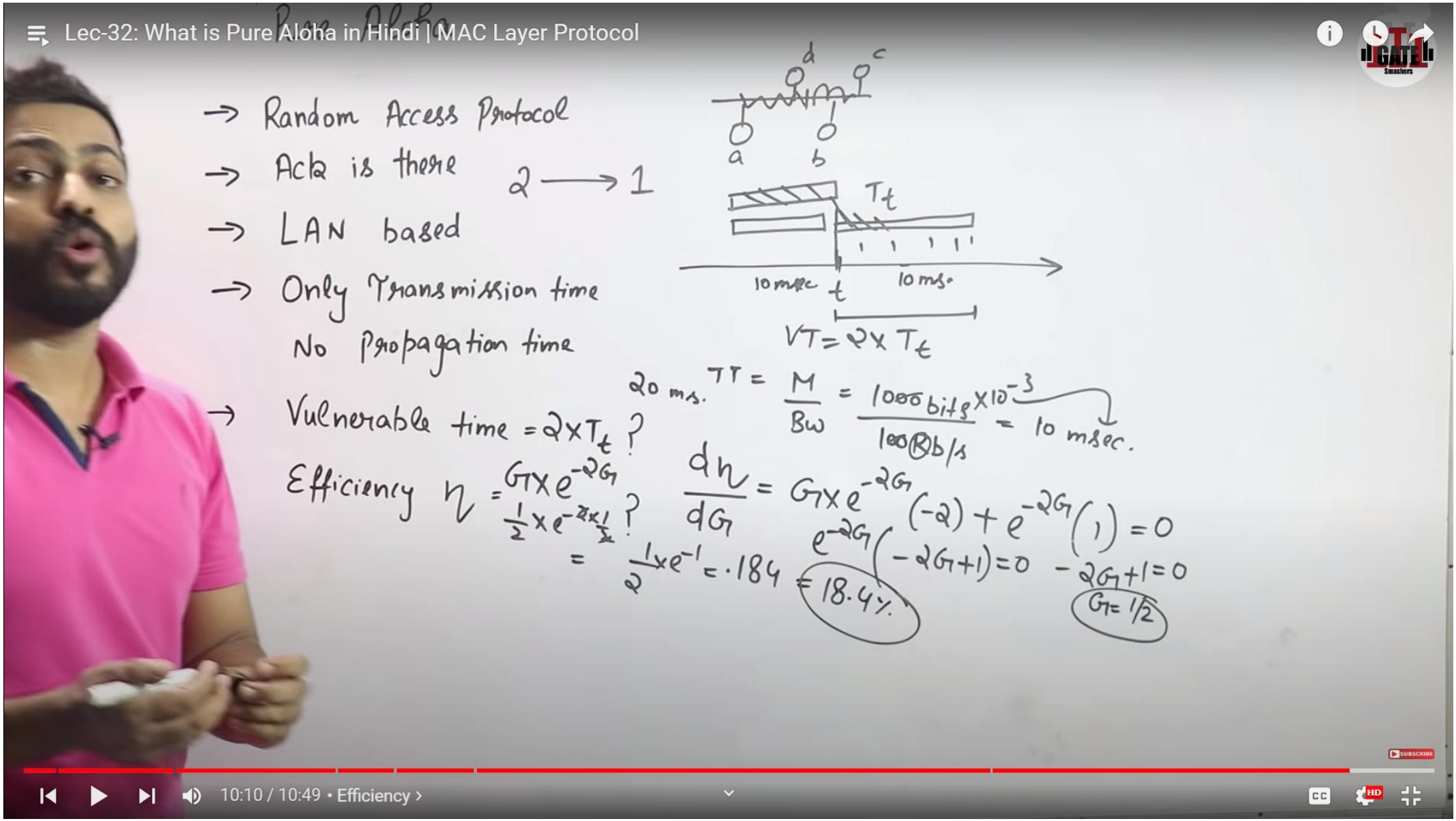
(iv) INFRARED:- Infrared Light is used to Send data.

- eg:- TV remote, automatic doors, wireless speakers.
- Transmits data through air.
- Propagate throughout Room.
- Can't penetrate Walls.
- Considered to be Secure one.

(V) LASER:- Requires direct LOS. → LINE of light.

- Unidirectional like Microwave but has much higher speed.

Lec-32: What is Pure Aloha in Hindi | MAC Layer Protocol



10:10 / 10:49 • Efficiency ›

'Pure Aloha'

- → Any time transmission
- → $VT = 2 \times T_t$
- → $\eta = G \times e^{-2G}$ 1/2
- → 18.4%.

$$T_t = \frac{M}{Bw}$$

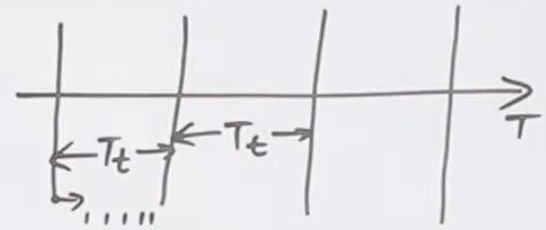
$$\frac{d\eta}{dG} = 0$$

$$-G + 1 = 0$$

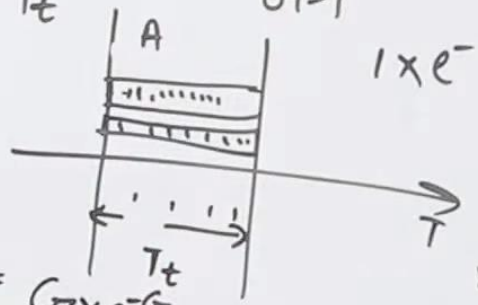
$$-G = -1$$

$$\boxed{G = 1}$$

'Slotted Aloha'



$VT = T_t$ $\quad G = 1$



$1 \times e^{-1} = \frac{1}{e} = \frac{1}{2.71}$

$= .368$

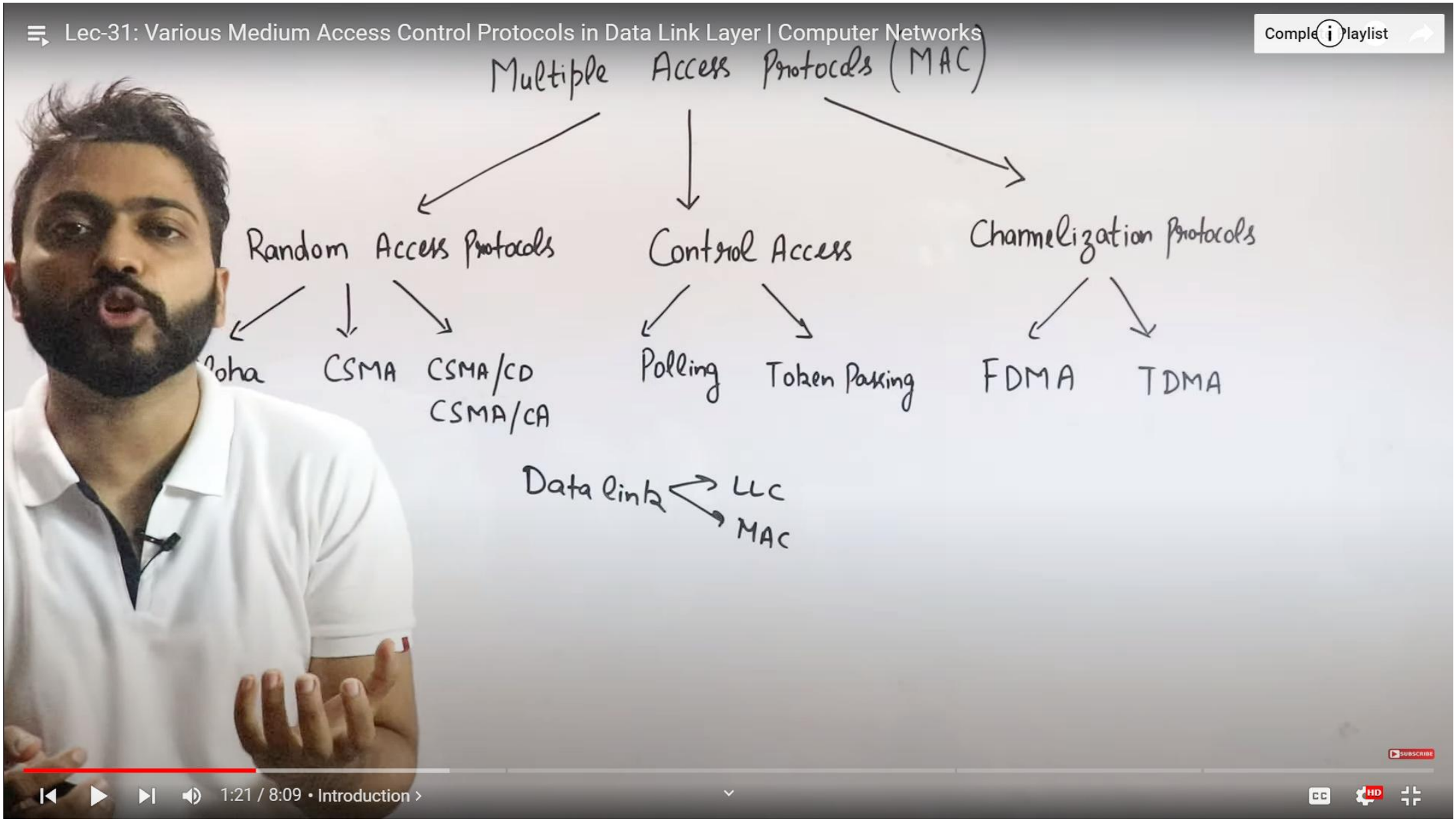
36.8%.

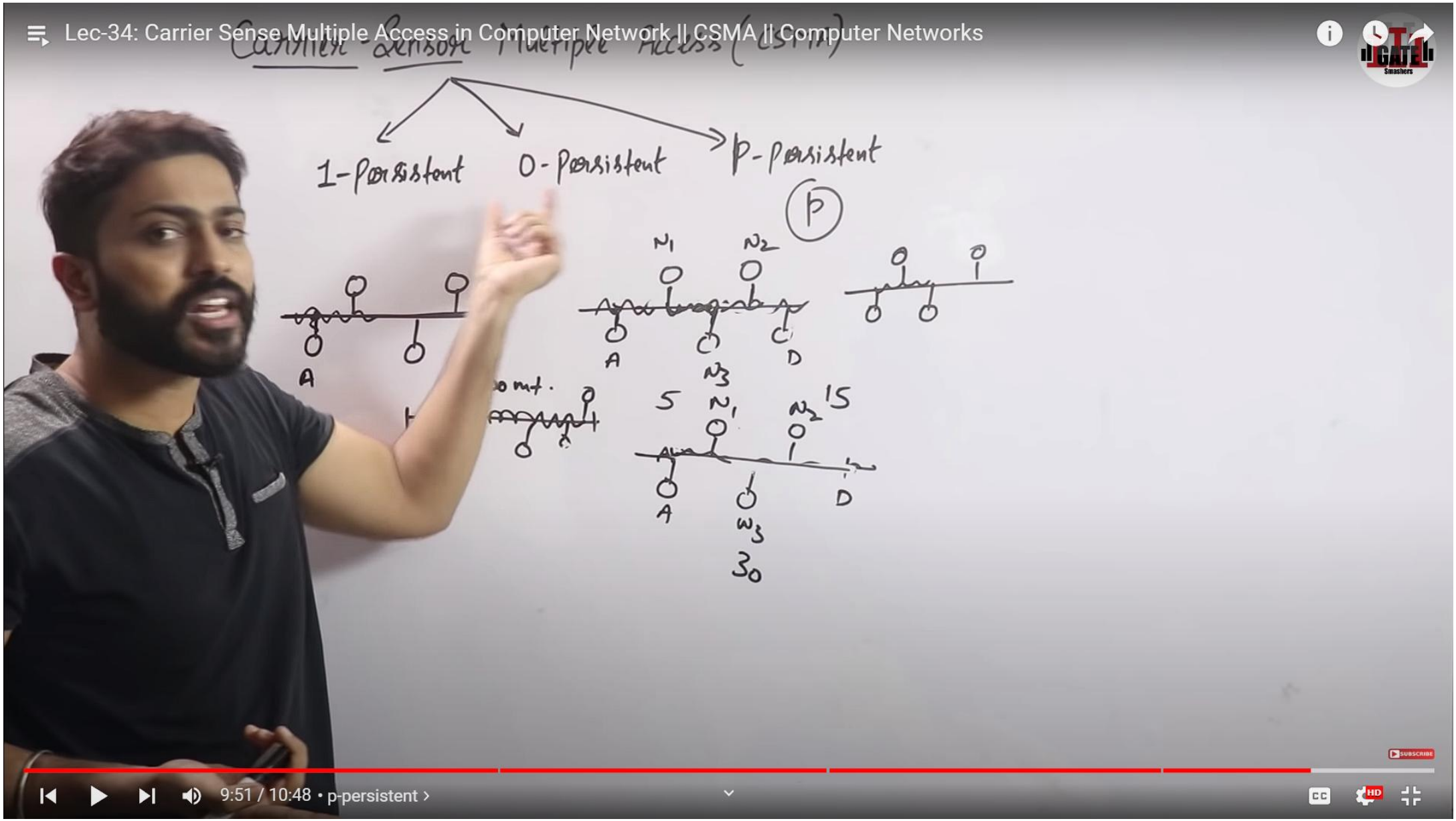
$\eta = G \times e^{-G}$

$$\frac{d\eta}{dG} = 0$$

$$G \times e^{-G}(-1) + e^{-G}(1) = 0$$

$$\Rightarrow e^{-G}(-G + 1) = 0$$


Lec-31: Various Medium Access Control Protocols in Data Link Layer | Computer Networks
Multiple Access Protocols (MAC)
Random Access Protocols
Control Access
Channelization Protocols
Aloha
CSMA
CSMA/CD
CSMA/CA
Polling
Token Passing
FDMA
TDMA
Data link
LLC
MAC
1:21 / 8:09 • Introduction ›


Lec-34: Carrier Sense Multiple Access in Computer Network || CSMA || Computer Networks
Carrier Sensor Multiple Access (CSMA)
1-Persistent
0-Persistent
p-Persistent
p
A
D
9:51 / 10:48 • p-persistent ›

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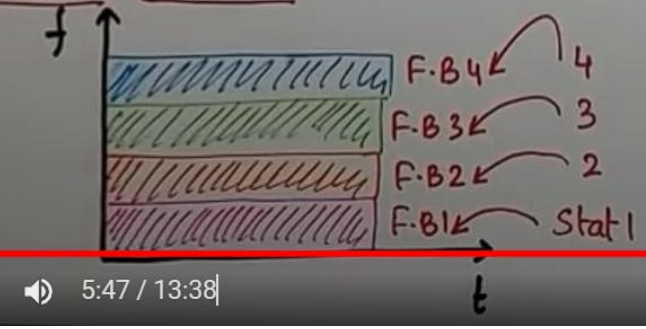
Channelization:- It is a multiple-access method in which the available bandwidth of a link is shared in time, frequency or through code.
- time → TDMA
- frequency → FDMA
- code → CDMA

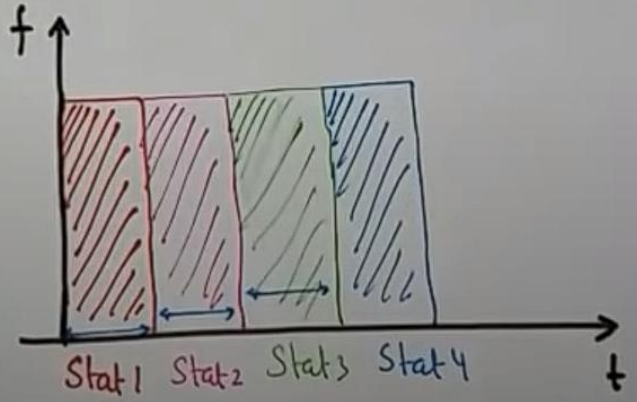
(1) Frequency-Division Multiple Access (FDMA):-

→ Available Bandwidth is divided into frequency bands. Each Station is allocated a band to send its data and it belongs to the Station all the time.



(2) Time-Division Multiple Access (TDMA):- In this method the stations share the bandwidth of channel in TIME. Each Station is allocated a time slot during which it can send data.

[IMP:- In TDMA, the bandwidth is just one channel that is timeshared b/w different stations.]



Controlled Access – Reservation, Polling, Token Passing Method(Hindi, English)

Press Esc to exit full screen

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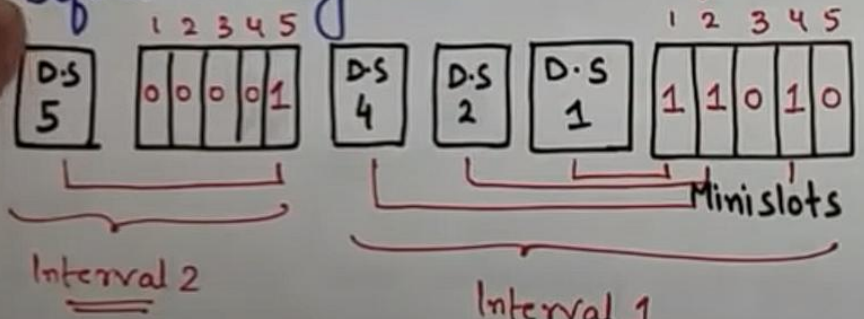
Controlled Access:- In this technique, all the Stations Consult one another to find which Station has the right to send.

(1.) Reservation Method:- In this method, a Station needs to make a reservation, before sending data.



NOTE:- If there are 'N' Stations in the system, there are exactly 'N' reservation minislots in the reservation frame.

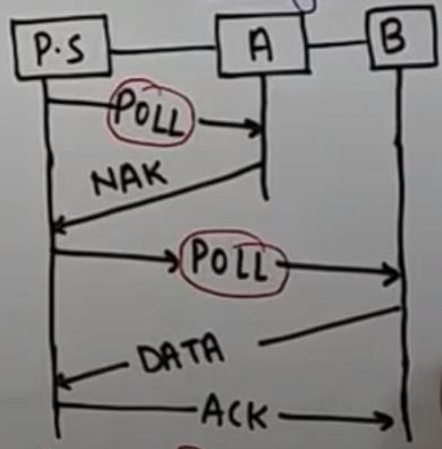
(2.) Polling Method:- Works with topologies. In this one device is designated as Primary Station, and the other devices are Secondary Station.

IMP:- All data exchanges must be made through the primary device.
↳ It Controls the link.

Select Function

Used when Primary wants to send Data

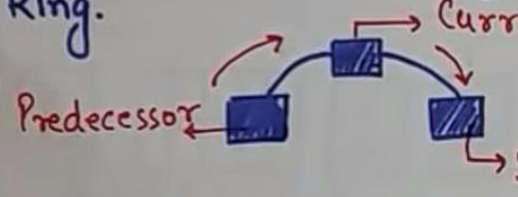
Polling Function



Used when Primary wa
Receive data.

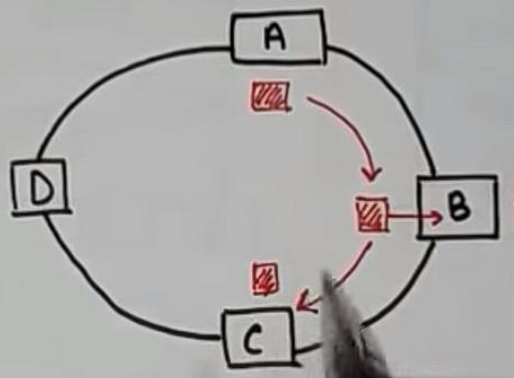
9:48 / 14:52

(8) Token Passing Method:- In this, the stations in a network are organized in a Logical Ring.



{ who is accessing the channel }

In this method, a special packet called a token circulates through the ring. The possesion of the token gives the station right to access the channel and sends its data.



{ Access the medium and releases token once done }