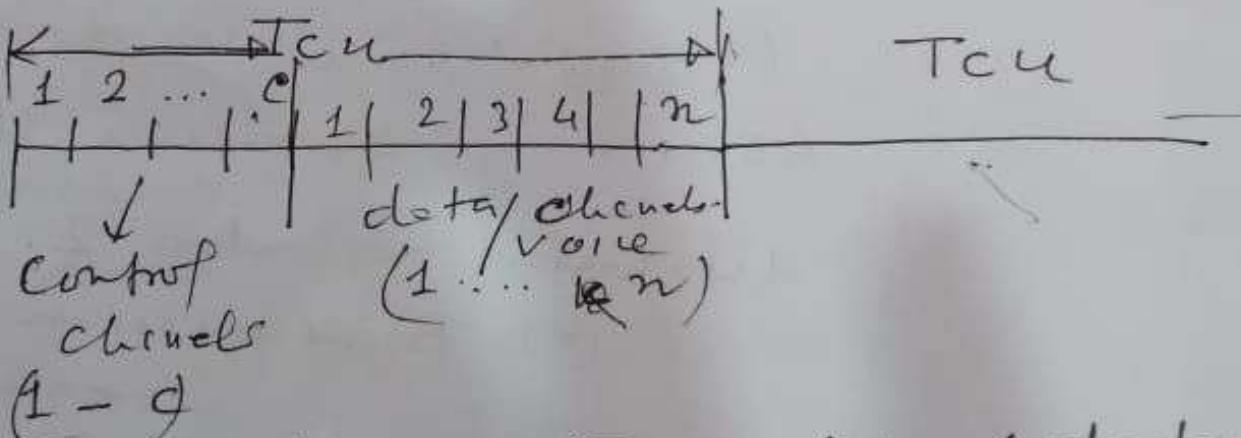
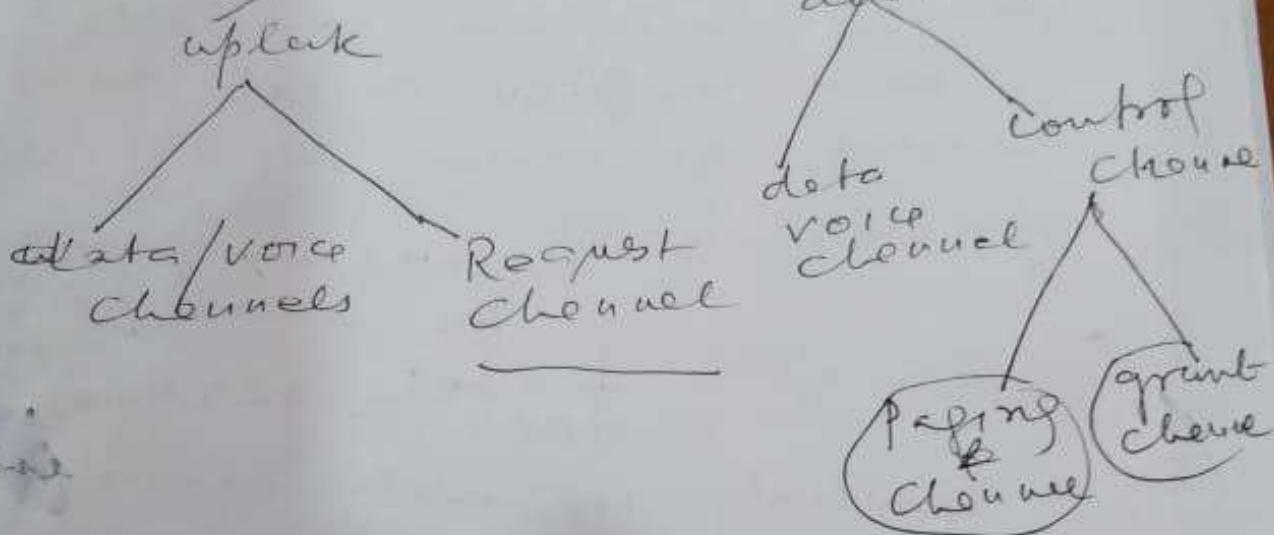


(P)

Control channels
① ② ③ ④



- control channel time slots < data voice channel time slot \Rightarrow Mini control slot.
- during the Mini control slot transmission / Reception takes place using the whole BW.

~~(Q) Pg(02)~~

(a) Similarly for downlink control channels.

(b) Call setup same as FDMA/FDD

Suppose in TDMA/FDD
Total BW allocated = 4 MHz
excluding control band
The modulation scheme = 4-QAM

The digital data rate of a channel = 10 kbps

For very strong uplink and how many downlink channels can be created?

Ans: Let us go for uplink channel calculation.

- Total BWt = 4 MHz

- Uplink BWu = downlink BWd

$$= \frac{4}{2} = 2 \text{ MHz}$$

- uplink band ratio = uplink BWd = 2 M/s
BWu

---- or n channels (Time slot)

Pap-03
Modulation is 4-QAM

$$V = 4.$$

Uplink digital data rate

$$(dr_u) = Br_u \times \log_2 V \\ = 2 \times 10^6 \times 2$$

Data rate of each channel
 $= 4 \times 10^6 \text{ bps}$

$$= 10 \times 10^3 = 10^4 \text{ bps}$$

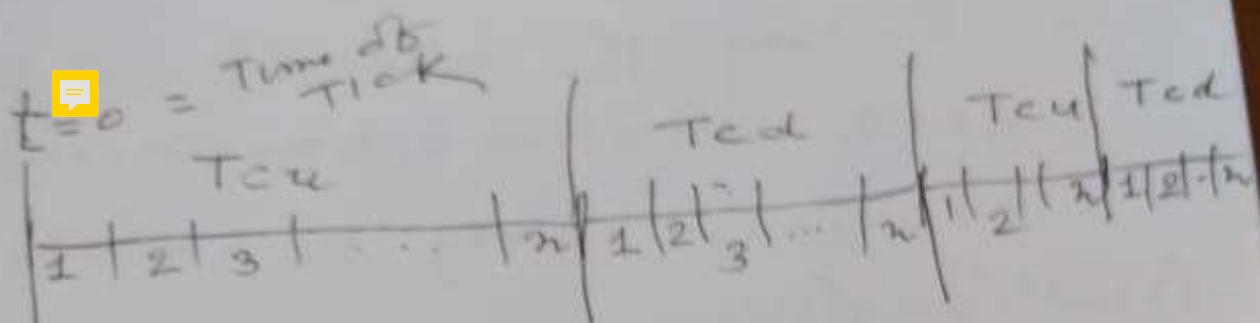
Total no of uplink channel

$$= \frac{4 \times 10^6}{10^4} = 400$$

No of Downlink channels

$$= 400.$$

- TDMA / TDD ?
 - There is no division of TD by BW.
 - BW is uplink and downlink.
 - Uplink and downlink is also created in time domain.
-



- Here first T_{CU} , then T_{CD} ... like $T_{CU}, T_{CD}, T_{CU}, T_{CD} \dots$ in order of time
- In TDMA/FDD T_{CU} and T_{CD} were parallel as two separate and BW_{UL} and BW_{DL} were allocated for uplink and downlink cycles. (Time slots)
- Each of n channels $1 \dots n$ is created on T_{CU}
- Each of n channels (Time slots)

- are created in T_{cd} (Page 5)
- \rightarrow width of each time slot is also same ΔT .
- if only 8 bit is transmitted in each time slot
then $N_{tx}(T_{cu} + T_{cd}) = 125 \text{ ms}$
- during the allocated slot each station transmits and receives using the where $B_{endtoend} = B_{WT}$.