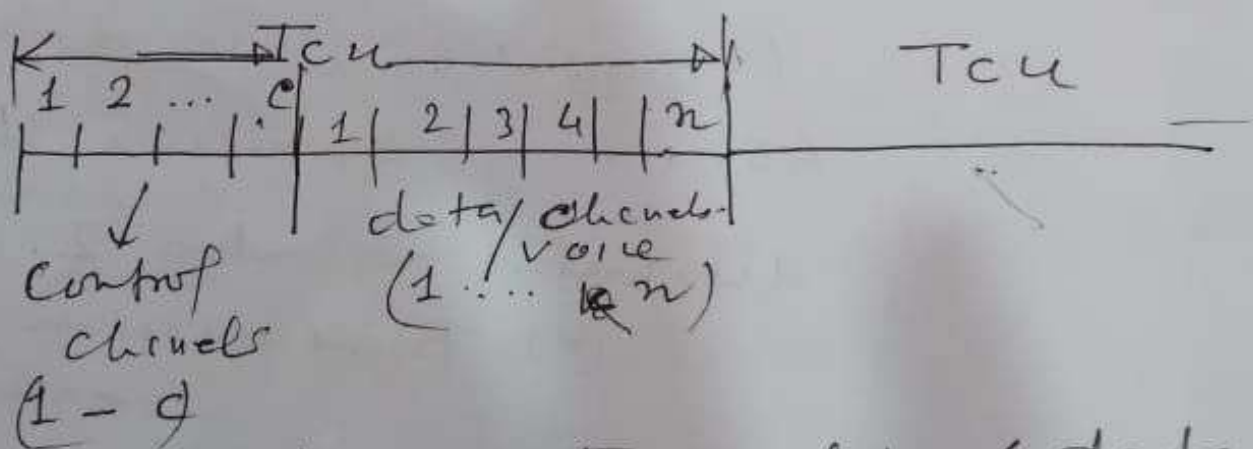
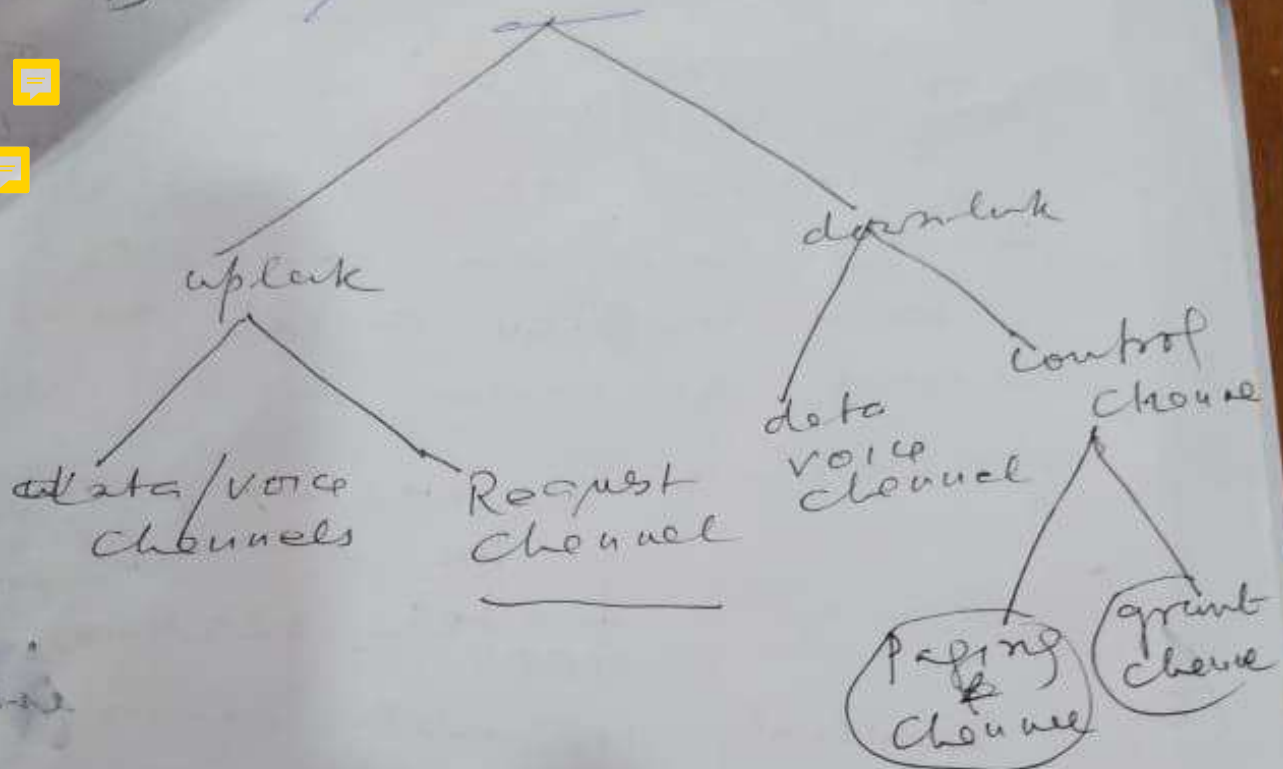


(P)

~~Control channels~~



- 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.

(8) Pg (02)
(4) Similarly for downlink control channels.

(v) Call set up same as FDMA/FDD.

Suppose in TDMA/FDD
Total BW allocated (excluding control channels) = 4 MHz
The Modulation scheme = 4-QAM

The digital data rate of a channel = 10 kbps.

How many 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 bandwidth rate = uplink BWd = 2 MHz/s
Bru

... of n channels (Time slot)

Paper-03

Modulation is 4-QAM

$$V = 4.$$

Uplink digital data rate

$$(d_{ru}) = B_{ru} \times \log_2 V$$

$$= 2 \times 10^6 \times 2$$

$$= 4 \times 10^6 \text{ ~~bps~~ bps}$$

Data rate of each channel

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

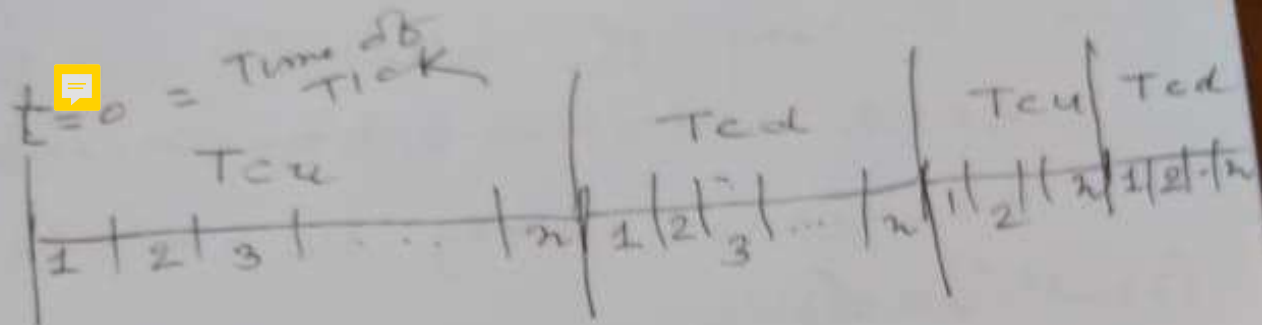
Total no of uplink channel

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

No of Downlink channel

$$= 400.$$

- TDMA/TDD
- There is no division of Total BWT in uplink and downlink.
- Uplink and downlink is also created in time domain.



- Here first Tcu, then Tcd... like Tcu, Tcd, Tcu, Tcd... in order of time
- In TDMA/FDD Tcu and Tcd were parallel as two separate and BWT were allocated for uplink and downlink cycles. (time slots)
- Each of n channels 1...n is created on Tcu
- Each of n channels (time slots)

are created in Page 05 T_{cd}
→ Bandwidth of each time slot
is also same ΔT .

— if only 8 bit is transmitted
in each time slot

then $N_{\max}(T_{cu} + T_{cd}) = 125 \mu s$

— During the allocated slot
each station transmits and
receives using the whole

$B_{\text{channel width}} = BW$