CSE-320

Assignment-3

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Sec: 08

Ans: to: que: no: 1

Required bandwidth = $76 \times 10^3 \times 20 + 500 \times 19$

$= 1529500$

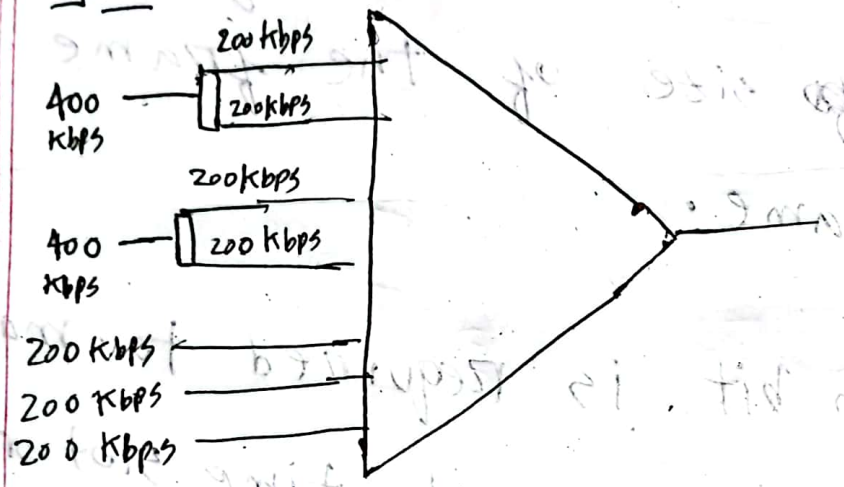
Ans: to: que: no: 2

In statistical TDM time slots are allocated in frames when ~~they have~~ the input channels have data to transmit. On the otherhand in synchronous TDM every channel has fixed alocated time slots in the output frame. Moreover,

in statistical TDM size of the frame vary based on the transmission it is receiving from the chanel. However, in synchronous TDM the size of the frame always stays the same.

Synchonization bit is required to mark the beginning of each time slot or frame. This bit is required for the receiver to identify the start of a new time slot and accurately demultiplex the incoming data streams.

Ans: to: que: no: 3



a] Ans: 7 slots.

b] 200 X 10^3 bit transfers in 1 sec;

∴ 1 bit in $\frac{1}{200 \times 10^3}$

c] Ans: size of frame = 7 X 2 + 1

= 15 bits

d] input slot duration = $\frac{2}{200 \times 10^3}$

we know, $\frac{2}{200 \times 10^3}$ sec $\longrightarrow$ 1 Frame

$\therefore$ 1 sec $\longrightarrow$ $\frac{200 \times 10^3}{2}$ "

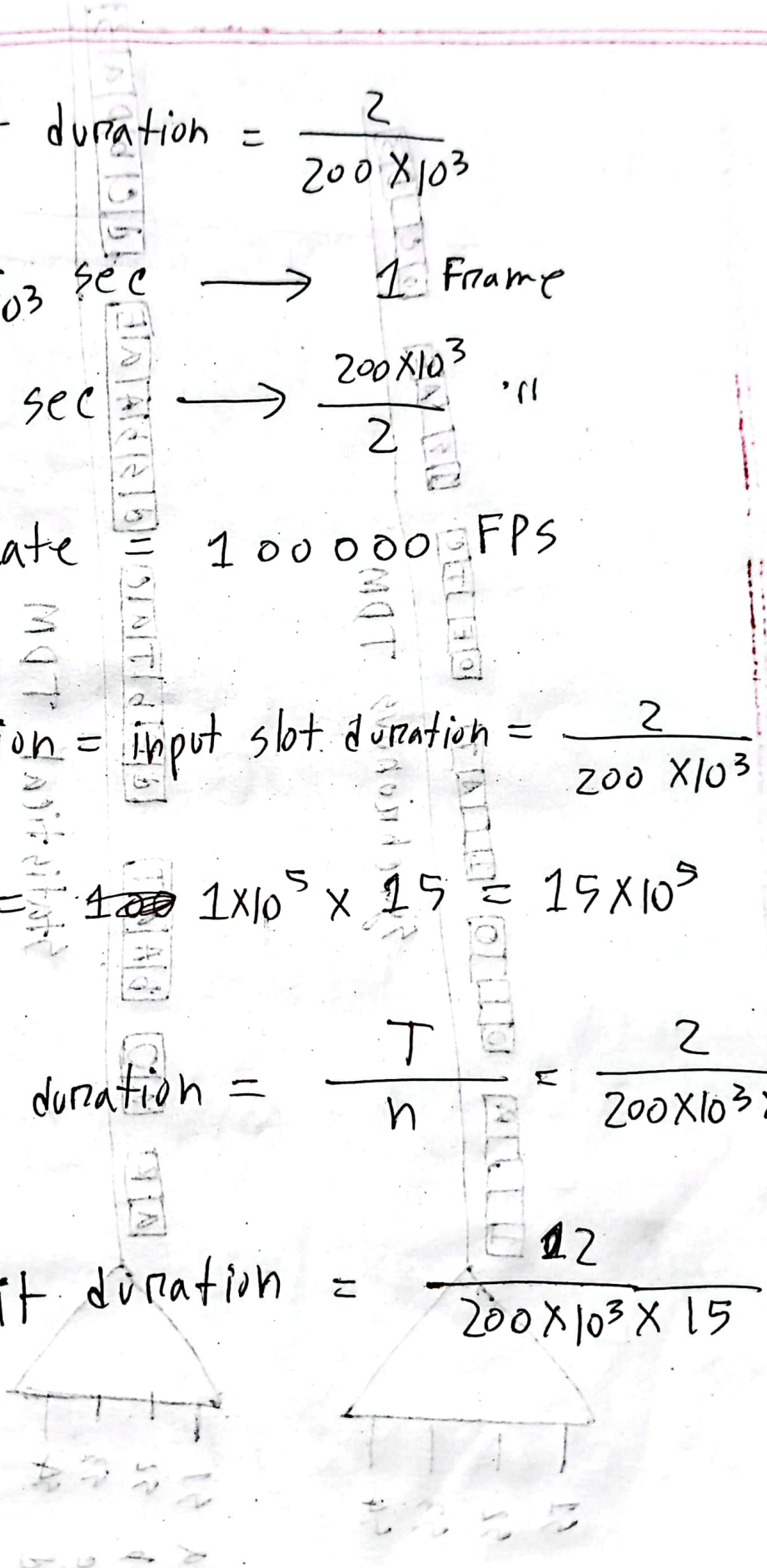
$\therefore$ Frame rate = 100000 FPS

e] Frame duration = input slot duration = $\frac{2}{200 \times 10^3}$

f] data rate = ~~1000~~ $1 \times 10^5 \times 15 = 15 \times 10^5$

g] Output slot duration = $\frac{T}{n} = \frac{2}{200 \times 10^3 \times 7}$

h] Output bit duration = $\frac{12}{200 \times 10^3 \times 15}$



Ans: to: que: no: 4