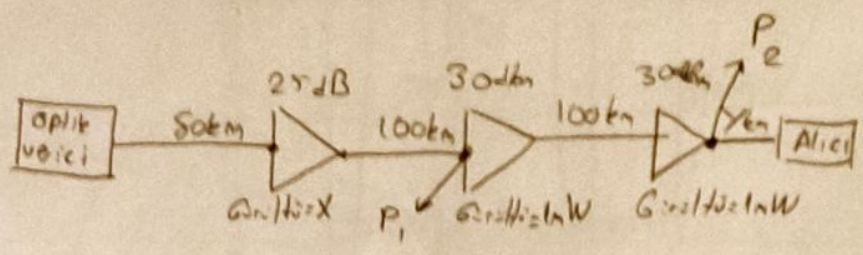
G191210336
Yasin Altınbaşak
2A

Fiber Optik Ağlar

ÖDEV - I

1)



a)

$10mW = 10.\log 10 = 10dBm$

$10 - 80.0,2 + 25 - 100.0,2 = (P_1) = -1\,dBm \rightarrow 10^{\frac{-1}{10}} = \frac{1}{1,259} = 0,794mW$

$(P_2) = -1 + 30 - 100.0,2 + 30 = 39dBm \rightarrow 10^{\frac{39}{10}} = 10^{3,9} = 7,943\,mW$

b)

~~$\alpha - 80.0,2 + 25 - 100.0,2 + 30 - 100.0,2 + 30 - y.0,2 = \alpha$~~

$-16 + 25 - 20 + 30 - 20 + 30 - y.0,2 = 0$

$y.0,2 = 29$

$y = 145$

c) $x\,mw = 10\log x$

$10\log x - 100.0,2 + 30 = 10\log x + 10\,dBm$

$10^{\frac{10\log x + 10}{10}} = 10^{\log x + 1} = 10x\,mW \xrightarrow{+1\text{ gücü}} (10x+1)\,mW$

$10\log(10x+1) - 100.0,2 + 30 = 10\log(10x+1) + 10 \rightarrow 10^{\frac{10\log(10x+1)+10}{10}}$

$10^{\log(10x+1)+1}$

$(10x+1)10$

$(100x+10)mw$

3. güçlü ile

$(100x+11)$

$10\log(100x+11) - 50.0,2 \geq 5mW$

$10^{\frac{10\log(100x+11)-10}{10}}$

$10^{\log(100x+11)-1}$

$(100x+11).10^{-1} = 5mW$

$100x + 11 = 50$

$x = 0,39mW$

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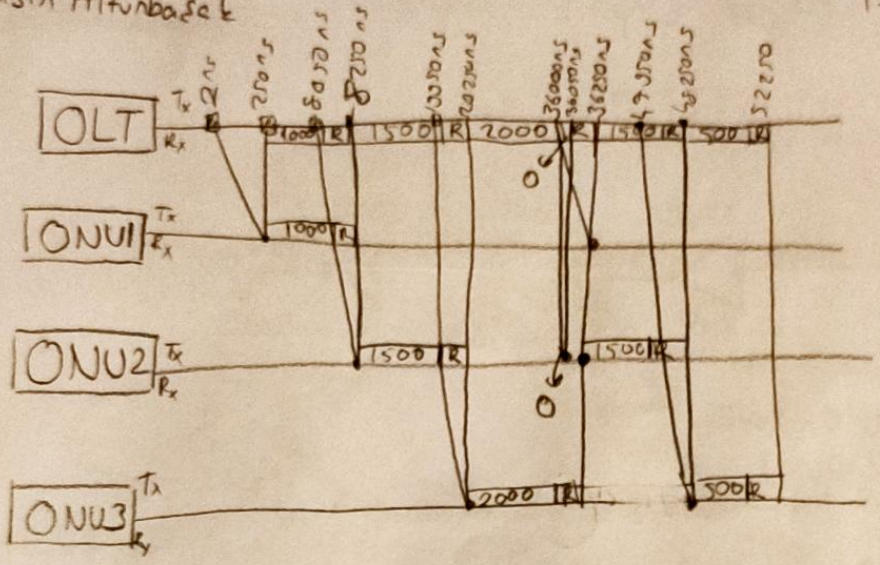
$T = MB = 2 \cdot 10^6$

2)



Onu	Bytes	Rtt	Güncelleme zamanı
1	1000	250	8250ns
2	1500	200	20250ns
3	2000	300	36250ns

kuyruklama 1

Onu	Bytes	Rtt	Güncelleme zamanı
1	0	250	36250ns
2	1500	200	48250ns
3	500	300	52250ns

kuyruklama tablosu 2

1000 byte 1gbs hızla

$\frac{1000 \times 8}{1 \times 10^9} = 8 \times 10^{-6} = 8000ns$

$8000 + 250 = 8250ns$

1500 byte

$\frac{1500 \times 8}{1 \times 10^9} = 12000ns \Rightarrow 12000 + 8250 = 20250ns$

2000 byte

$\frac{2000 \times 8}{1 \times 10^9} = 16000ns \Rightarrow 16000 + 20250ns = 36250ns$

0 byte - 0

$0 + 36250 = 36250ns$

1500 byte

$\frac{1500 \times 8}{1 \times 10^9} = 12000ns \rightarrow 12000 + 36250 = 48250ns$

500 byte

$\frac{500 \times 8}{1 \times 10^9} = 4000ns$

$48250 + 4000 = 52250$

Arz Mesajları

$8250 - 200 = 8050ns$

$20250 - 300 = 19950ns$

$36250 - 250 = 36000ns$

$36250 - 200 = 36050ns$

$48250 - 300 = 47950ns$

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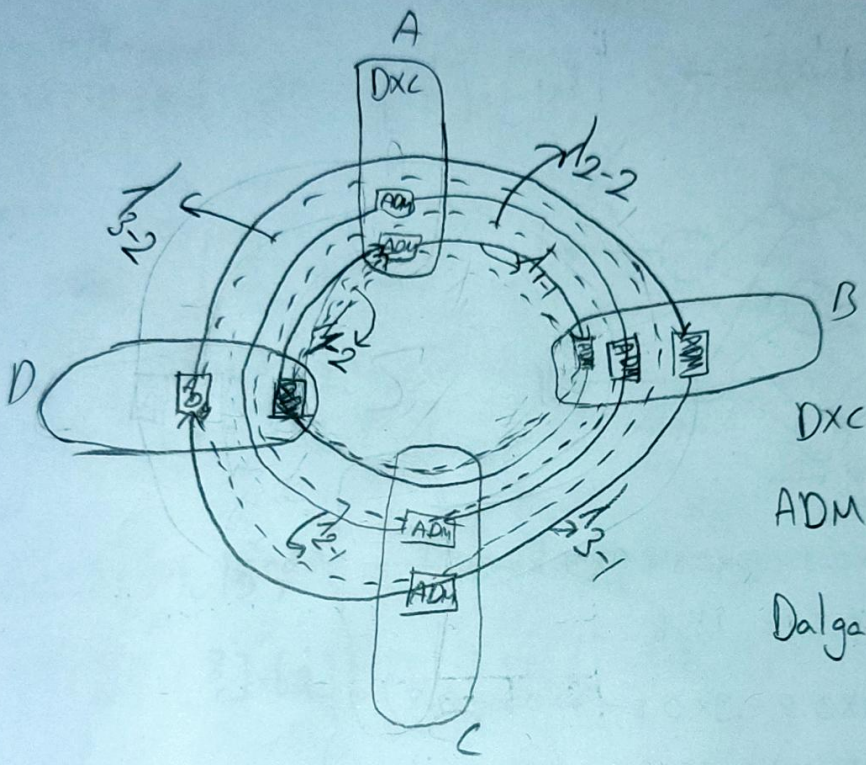
3)



DXC'li düğüm hariç

ADM sayısı: 7

Dalga boyu sayısı: 3