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Section: A (eve)

Ans: to the Q no: 1

Find SNR (dB) if the signal power is 14w and noise power is 2w.

Given that,

Signal Power $P_s = 14\,W$

Noise Power $P_n = 2\,W$

$SNR_{dB} = 10\log_{10} SNR$

$SNR_{dB} = 10\log_{10} \frac{P_s}{P_n}$

$SNR_{dB} = 10\log_{10} \frac{14}{2}$

$= 8.4509\,dB$ (Ans)

~~Ans: to: Q: no~~

Ans: to the Q: no: 02

A baseband signal with 12 KHz bandwidth has Signal-to-Noise ratio 20dB, What will be the capacit of that channel?

Given that

Bandwidth, B = 12KHz

SNR = 20dB

$\therefore$ SNR $= 10\log(SNR)$

$= 10^{20/10}$

$= 100$

$C = 3.32 B \log_{10}(1+SNR)$ bits/sec

$= 3.32 \times 12000 \times \log_{10}(1+100)$ bits/sec

$= 79852.1635$ bits/sec

$= 79.8521$ Kbits/sec

$= 80$ Kbits/sec (Ans)