H.W.

Course Code: EEE-311

Course Title: Communication Engineering I

SUBMITTED TO:

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Section: A

Lab Section: A2

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1 no answer

Given that,

Signal power, $P_S = 14\,W$

Noise power, $P_n = 2\,W$

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

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

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

$$= 8.4509804\,dB$$

$$= 8.4509\,dB \quad (Ans)$$

2 no answer

Given that,

Bandwidth, B = 12 kHz

SNR = 20 dB

$\therefore SNR = 10 \log_{10} SNR$

$= 10^{\frac{20}{10}}$

$= 100$

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

$= 3.32 \times 12000 \times \log_{10}(1+200)$ bit/sec

$= 79852.16353$ bits/sec

$= 79852.1635$ bits/sec

$= 79.8521$ K bits/sec

$= 80$ k bits/sec (Ans:-)