



Daffodil
International
University

Department of EEE

Course Code: EEE311

Course Title: Communication Engineering

Check your learning: Lecture Module - 03

Submitted By:

Name: Md.Rafid Hasin Piyas.

ID:201-33-5329.

Section: A.

Level 2,Term 2

Submitted To:

Name of the Course instructor : Mr. Md. Junaed Al-Hossain

Department of EEE ,DIU

01Answer:-

Given that,

$$\text{signal power, } P_s = 14\text{W}$$

$$\text{Noise power, } P_n = 2\text{W}$$

$$\text{SNR}_{\text{dB}} = 10 \log_{10} \text{SNR}$$

$$\text{SNR}_{\text{dB}} = 10 \log_{10} \frac{P_s}{P_n}$$

$$\text{SNR}_{\text{dB}} = 10 \log_{10} \frac{14}{2}$$

$$= 8.4509 \text{ dB (Ans)}$$

Q. 201-33-5329, A

02

Given that,

$$\text{Bandwidth, } B = 12 \text{ kHz}$$

$$\text{SNR} = 20 \text{ dB}$$

$$\therefore \text{SNR} = 10 \log_{10} (\text{SNR})$$

$$= \cancel{10} 10^{20/10}$$

$$= 100$$

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

$$= 3.32 \times 1200 \times \log_{10} (1 + 100) \text{ bit/sec}$$

$$= 79852.1635 \text{ bits/sec}$$

$$= 80 \text{ K bits/second} \quad \underline{\text{Ans}}$$