

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
BTECH MIDSEM EXAMINATION
SthSEMESTER

ACY-2022-23 (ODD SEM)

Subject Name (Code): Fundamentals of Communication Engineering (203107346)

Branch: Aeronautical Engineering

Date: 08/08/22

Time: 10:30 -12:00 PM

Total Marks: 40

Marks

05

Q.1 (A) Objective Type Questions:

- (1) FSK stands for _____
 - a) Frequency Section Keying
 - b) Frequency Segregation Keying
 - c) Frequency Shift Keying
 - d) Frequency Signal Keying

- (2) Thermal Noise is also known as _____
 - a) Johnson Noise
 - b) Partition noise
 - c) Flicker noise
 - d) Solar noise

- (3) A three-stage amplifier has individual power gain of 10, 15, and 25 respectively. The overall power gain of the amplifier is _____
 - a) 270
 - b) 375
 - c) 3250
 - d) 3750

- (4) _____ is defined as the ratio of input signal to noise ratio to the output signal to noise ratio.
 - a) Noise Figure
 - b) Noise Temperature
 - c) SNRo
 - d) None of the mentioned

- (5) Atmospheric Noise is also called as _____
 - a) Cosmic Noise
 - b) Johnson Noise
 - c) Flicker Noise
 - d) Static Noise

(B) Compulsory Questions:

05

- (6) The power output of an amplifier is 7 watts. The power gain is 80. What is the input power?
- (7) Define Modulation Index.
- (8) The _____ is a unit of measure used to express the gain or loss of the circuit.

- (9) Define Noise Figure.
(10) has the uniform spectral density across the EM wave.

- Q.2 Answer the following questions.(Attempt any four) 12
- (1) Explain the transmission efficiency of an AM wave.
 - (2) Derive Noise Factor in terms of equivalent Noise Temperature.
 - (3) Define modulation. Explain the different types of modulation.
 - (4) The SNR at the input of an amplifier is 45dB. If the noise figure of an amplifier is 25 dB, calculate the SNR (in dB) at the output of an amplifier.
 - (5) A filter has a power input of 50m W and an output of 2m W. What is the gain or the attenuation?
- Q.3 Answer the following questions. (Attempt any two) 08
- (1) Define the standard form of Amplitude Modulation. Explain the time domain expression of an AM wave.
 - (2) Explain briefly the use of EM waves in our day-to-day life with suitable diagram.
 - (3) How many classifications of Noise are there? Explain in brief.
- Q.4 (A) Derive Friis Transmission Formula with suitable diagram. 05
- (B) Explain the amplitude modulation using the single-tone information. 05
- OR
- (B) Obtain the expression for total transmitted power of AM wave. 05