Muzaffarpur Institute of Technology (MIT), Muzaffarpur

(Under the Department of Science & Technology Govt. of Bihar, Patna)

Department of Electronics and Communication

B.Tech 5th Semester Weekly Exam - 1, 2018

INTRODUCTION TO COMMUNICATION SYSTEM

SET: 1 **TIME: 20 min** **FULL MARKS: $10 \times 1 = 10$**

NAME: _____ **REG. NO. _____**

(1) Minimum frequency of human voice is

(a) 20 Hz (b) 300 Hz (c) 20 KHz (d) 0 Hz

(2) For proper transmission antenna height should be approximately what fraction of wavelength of electromagnetic wave

(a) 1/4 (b) 1/2 (c) 3/4 (d) 1/8

(3) If a function f(t) starts from t = 3, then f(3t) will start from

(a) 2 (b) 9 (c) 1 (d) 6

(4) Mirror image about x-axis is the property of

(a) Amplitude scaling (b) Time scaling (c) Amplitude reversal (d) Time reversal

(5) Define Modulation?

(6) What is the height of the antenna required for proper transmission and reception of the radio channel "RADIO MIRCHI" which can be tuned at 98.3 Mhz .

(7) Unit impulse function is a _____ function while sin(x) is a _____ function.

(8) For a rectangular pulse f(t) defined as

$$f(t) = 1 \qquad -1 \le t \le 1$$
$$0 \qquad Otherwise$$

Sketch f (-t + 5) and f(2t -3)

(9) Find the value of $\int_{-\pi/6}^{\pi/6} sin\left(t - \frac{\pi}{2}\right)\delta(3t - \pi)dt$

(10) Plot the spectrum of $5\cos(200\pi t + 30°)$ and find its power.

NUMBER OF ATTEMPTS: _____MARKS SCORED: _____ SIGNATURE OF FACULTY _____

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SET: 2 **TIME: 20 min** **FULL MARKS: $10 \times 1 = 10$**

NAME: _____ **REG. NO. _____**

(1) Maximum frequency of human voice is

(a) 20 Hz (b) 300 Hz (c) 20 KHz (d) 3400 Hz

(2) For proper transmission antenna height should be approximately what fraction of wavelength of electromagnetic wave

(a) 1/4 (b) 1/2 (c) 3/4 (d) 1/8

(3) If a function f(t) starts from t = 6, then f(3t) will start from

(a) 2 (b) 9 (c) 1 (d) 6

(4) Mirror image about y-axis is the property of

(a) Amplitude scaling (b) Time scaling (c) Amplitude reversal (d) Time reversal

(5) Define Amplitude Modulation?

(6) What is the height of the antenna required for proper transmission and reception of the radio channel "BIG FM" which can be tuned at 95.0 Mhz .

(7) Unit impulse function is a _____ function while tan(x) is a _____ function.

(8) For a rectangular pulse f(t) defined as

$$f(t) = 2 \quad -1 \le t \le 1$$
$$0 \quad Otherwise$$

Sketch f (-t + 5) and f(2t -3)

(9) Find the value of $\int_{-\infty}^{\infty} sin\left(t - \frac{\pi}{2}\right)\delta(3t - \pi)dt$

(10) Plot the spectrum of $2\sin(100\pi t - 30°)$ and find its power.

NUMBER OF ATTEMPTS: _____MARKS SCORED: _____ SIGNATURE OF FACULTY _____

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INTRODUCTION TO COMMUNICATION SYSTEM

SET: 3 **TIME: 20 min** **FULL MARKS: $10 \times 1 = 10$**

NAME: _____ **REG. NO. _____**

(1) Maximum audio frequency that human can hear is

(a) 20 Hz (b) 300 Hz (c) 20 KHz (d) 3400 Hz

(2) For proper transmission antenna height should be approximately what fraction of wavelength of electromagnetic wave

(a) 1/4 (b) 1/2 (c) 3/4 (d) 1/8

(3) If a function f(t) starts from t = 6, then f(6t) will start from

(a) 2 (b) 9 (c) 1 (d) 6

(4) Amplitude of a function change in which operation

(a) Amplitude scaling (b) Time scaling (c) Shifting (d) Time reversal

(5) Define Frequency Modulation?

(6) What is the height of the antenna required for proper transmission and reception of radio channel which can be tuned at 88.0 Mhz .

(7) Delta function is a _____ function while sinc(x) is a _____ function.

(8) For a rectangular pulse f(t) defined as

$$f(t) = \begin{matrix} 5 & -1 \le t \le 1 \\ 0 & Otherwise \end{matrix}$$

Sketch f (-t + 5) and f(2t -3)

(9) Find the value of $\int_{-\infty}^{\infty} sin\left(t - \frac{\pi}{2}\right)\delta(t - \pi)dt$

(10) Plot the spectrum of $\sin(100t - 30°)$ and find its power.

NUMBER OF ATTEMPTS: _____MARKS SCORED: _____ SIGNATURE OF FACULTY _____