Program: BE Information Technology

Curriculum Scheme: Revised 2019

Examination: Second Year Semester III

Course Code: ITC304   Course Name: Principle of Communication

MCQ_SECTION

Time: 40 Min   **Max. Marks: 40**

1] All questions are Compulsory

2] Assume suitable data wherever required

Q1. Attempt all questions. [20*2=40M]

Q.	Question Statement	OPTION A:	OPTION B:	OPTION C:	OPTION D:
1	A modulating signal having amplitude 20 is used to amplitude modulate a carrier signal of amplitude 50. Determine the Modulation index.	0.4	2.5	1	4
2	A modulating signal having frequency 100 Hz is used to amplitude modulate a carrier signal 1KHz. Calculate the Bandwidth.	100 Hz	1 KHz	200 Hz	2 KHz
3	In Electronic communication system, choose which is not a channel.	Atmosphere	Coaxial cable	Speaker	Waveguide
4	A short noise is not produced in	Transistor	Diode	Resistor	Vacuum tube
5	The unit of Noise figure is	Unitless	dB	K	Bits/sec
6	SNR is ratio of	Signal power to Noise power	Noise power to signal power	Noise factor to noise figure	Noise figure to Noise factor
7	DSBFC spectrum consist of	Only lower sidebands	Only upper sidebands	Only carrier frequency	Both lower and upper sidebands and carrier frequency
8	The spacing between the two adjacent representation levels is called as	Step size	Level size	Difference in level	Space size
9	Which of the following block is not used in Analog communication system?	Input transducer	Output transducer	Channel	Quantizer

#	Question				
10	In Pulse Width Modulation (PWM), generation is with the help of	Integrator and Hold circuit	Monostable multivibrator and comparator	Sawtooth generator and comparator	Sawtooth generator and monostable multivibrator
11	Which statement is TRUE about Delta modulation?	The step-size can be controlled	The sampling frequency is much higher than Nyquist rate	The design is very complex	There is no Slope Over load distortion
12	In Amplitude shift keying, the carrier signal is	analog	digital	pulse	discrete time
13	Choose which noise lies in 20 to 120 MHz	Industrial noise	Man made noise	Solar noise	Cosmic noise
14	Which statement is FALSE about Quantization?	Analog signals are rounded off to approximately equal value	There is no information loss in quantization process	There is information loss in quantization process	More the number of quantization levels better is quantized output
15	Which statement is FALSE about Orthogonal Frequency division multiplexing?	There are no guard bands	There is bandwidth saving in OFDM as compared to FDM	The sub streams are orthogonal to each other	There is no synchronization between the communicating nodes
16	In Frequency division multiplexing transmitter, which of the following block is used?	Band pass filter	Rectifier	Low pass filter	Mixer
17	If the SNR is 0 dB, and the bandwidth available is 4 kHz, then calculate capacity.	0 Hz	4 KHz	8 KHz	2 KHz
18	The Shannon-Hartley Theorem relates	Channel capacity and frequency	Channel capacity and signal power	Channel capacity and noise power	Channel capacity and Bandwidth
19	Which of the following is the phenomenon caused when Radio waves travel in two or more paths during propagation and produce slowly-changing phase differences between signals?	Absorption	Fading	Baffling	skip
20	In QPSK, modulation is symbol based, where one symbol contains	2 bits	1 bit	4 bits	3 bits

DESCRIPTIVE_SECTION

Time: 1.20 Hrs.   **Max. Marks: 40**

Attempt all questions.

Q2. Write Short note on (Any 4 each for 5 Marks)
A) Derive Friss Formula
B) Different types of communication channel
C) Principle of reflection and refraction
D) Intersymbol Interference
E) pre-emphesis and de-emphesis
F) Space wave propagation

Q3. Attempt the following (Any 2 each for 10 Marks)
A) Explain in detail indirect method of FM generation.
B) Explain generation and demodulation of PWM.
C) What are the limitation of TRF Receiver? How these are avoided in super heterodyne receiver.