

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	Which frequency band belongs to the ultra high frequencies (UHF)	300 to 3000 MHz	30 to 300 Hz	3 to 30 Hz	30 to 300 kHz
2	Which among the following is not external noise	Shot noise	Solar noise	Cosmic noise	Man made
3	Audio frequency range lies between _____	2 MHz to 20 MHz	20 Hz to 20 KHz	20 KHz to 200 KHz	20 MHz to 200 MHz
4	The function of the transmitter block in the communication system is _____	To convert electrical equivalent of the information only in digital form	To convert electrical equivalent of the information in a suitable form	To convert electrical equivalent of the information only in analog form	To convert the signal from analog to digital
5	Superhertodyne principle refers to	Obtaining lower fixed intermediate frequency	Using a large number of amplifier stages	Using a push-pull circuit	Obtaining higher intermediate frequency
6	Which of the following communication system is truly bidirectional	Half duplex	Full duplex	simplex	Modern Communication System
7	In Electronic communication system, choose which is not a channel.	Atmosphere	Coaxial cable	Waveguide	Speaker

8	The modulation index of amplitude modulation is given as	E_m/E_c	E_c/E_m	$E_m=E_c$	E_c+E_m
9	The amount of frequency deviation in FM signal depends on	Frequency of the modulating signal	Amplitude of the modulating signal	Amplitude of the carrier signal	Frequency of the carrier signal
10	If the SNR is 0 dB, and the bandwidth available is 4 kHz, then calculate capacity.	0 Hz	4 KHz	8 KHz	2 KHz
11	Armstrong method is used for the generation of	Direct FM	Indirect FM	DSB-SC	SSB-SC
12	If the value of modulation index is greater than 1 then it is called as _____	Over modulation	Undermodulation	Perfect modulation	100 % modulation
13	Choose which noise lies in 20 to 120 MHz	Shot noise	Man made noise	Solar noise	Cosmic noise
14	A high Q tuned circuit will permit an amplifier to have high _____	Fidelity	Frequency range	Sensitivity	Selectivity
15	Which statement is true about Square Law modulators?	It is used for frequency modulation	it is used for pulse width modulation	it is used for amplitude modulation	it is used for phase modulation
16	The unit of Noise figure is	dB	Unitless	Bits/sec	K
17	A modulating signal having amplitude 40 is used to amplitude modulate a carrier signal of amplitude 50. Determine the Modulation index	0.4	0.8	1	4
18	Demodulation is done in _____	Receiving antenna	Transmitter	Transmitting antenna	Radio receiver

19	Pre-emphasis circuit is used	after detection	after modulation	before modulation	before detection
20	If the carrier of 100 percent modulated AM is suppressed,the percentage power saving is _____	50	150	66.66	100

DESCRIPTIVE_SECTION

Time: 1.20 Hrs.

Max. Marks: 40

Attempt all questions.

Q2 Attempt the following (Any 4 each for 5 Marks)

- a. Explain Different types of communication channel.
- b. State & prove time shifting property of Fourier Transform.
- c. Derive friss Formula.
- d. State in brief different types of noise.
- e. Compute the Fourier Transform of Delta & Gate function.
- f. Explain Noise figure & noise factor.

Q3. Attempt the following (Any 2 each for 10 Marks)

- a. Derive the expression for AM.
- b. What are the limitation of TRF Receiver? How these are avoided in super heterodyne receiver.