

University of Mumbai

Examinations summer 2022

Program: Electronics Engineering

Curriculum Scheme: Rev2019

Examination: SE Semester IV

Subject code: 40924 and Course Name: Principles of Communication Engineering

Time: 2 hour 30 minutes

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	What is TRF
Option A:	Tuned Radio Frequency
Option B:	Tuned Resonant Frequency
Option C:	Time Resonated frequency
Option D:	Transfer Radio Frequency
2.	Pulse width modulation is a type of _____ modulation
Option A:	Analog
Option B:	Digital
Option C:	Angle
Option D:	circular
3.	Demodulation is done in _____
Option A:	Channel
Option B:	Receiving antenna
Option C:	Transducer
Option D:	Radio Receiver
4.	For over modulation, the value of modulation index m is
Option A:	$m < 1$
Option B:	$m = 1$
Option C:	$m > 1$
Option D:	$m = 0$
5.	Which of the following block is not present in a Low level modulated AM transmitter
Option A:	Linear amplifier
Option B:	Power amplifier
Option C:	Class C RF O/P amplifier
Option D:	Class A buffer amplifier
6.	For TDM, the data rate of the multiplexed signal is always n times the data rate of _____, where n is the _____.
Option A:	modulating signal, amplitude
Option B:	individual sources, number of sources
Option C:	combined voltage, constant
Option D:	modulating signal, frequency
7.	The Nyquist rate of signal samples/sec
Option A:	Fm
Option B:	2 fm
Option C:	N fm

Option D:	2N fm
8.	Modulation is done at _____
Option A:	Transmitter
Option B:	Multiplexer
Option C:	Channel
Option D:	Receiver
9.	Pre- emphasis is required to _____
Option A:	Boosting carrier frequencies
Option B:	To convert PM to FM
Option C:	Provide better noise immunity
Option D:	Amplifying lower audio frequencies
10.	In an AM wave, the majority of the power is in _____
Option A:	Upper sideband
Option B:	Carrier
Option C:	Lower sideband
Option D:	Single side band

Q2	Solve any Two Questions out of Three (10 marks each)
A	Compare AM ,FM, and PM.
B	Write a short note on basic communication system with the help of a neat diagram.
C	Explain how SSB signal (with USB suppressed) is generated using phase shift method with a block diagram

Q3	Solve any Two Questions out of Three (10 marks each)
A	Explain PAM, PWM and PPM generation with neat block diagrams.
B	Derive the expression for FM wave. Comment on bandwidth of FM wave.
C	Define modulation index and percentage modulation. Draw the block diagram of the adaptive delta modulation system and explain its operation

Q4	Solve any Two Questions out of Three (10 marks each)
A	What is Automatic Gain Control (AGC)? Explain Automatic Frequency Control (AFC) in details.
B	Explain generation of PCM with block diagram and waveforms
C	What is Sampling theorem. Explain Flat Top Sampling in Details.