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

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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.