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Previous Year Semester Question of Communication Engineering - 1 [4 th ETC - ETT 40.	3 Page [1]
IV-SEM / E & TC / 2018 (W)	[19/12/2018, EX-REG]
COMMUNICATION ENGINEERING -	Ι
Sub Code – ETT-403	
Full Marks: 70	
Time: 3 Hours	
Answer any FIVE Ouestions	
The figures in the right-hand margin indicate marks	
1. (a) Define modulation index of AM and give its advantages.	[2]
(b) Explain the operation of envelope detector with a neat block diagram.	[5]
(c) Describe the operation and working principles of Balanced Modulation with neat d	iagram. [7]
2. (a) What is DSB-SC signal?	[2]
(b) Derive the Power relation in AM Wave.	[2]
(c) With neat diagram explain the operation of super heterodyne receiver.	[7]
3. (a) Write down the definition of multiplexing.	[2]
(b) Draw the proper diagram and explain the FM stereophonic Receiver.	[5]
(c) Describe the generation and detection of a PPM signal.	[7]
4. (a) Define Nyquist Rate.	[2]
(b) Discuss the demodulation process of PWM signal.	[5]
(c) What is PAM? Explain the generations of PAM signal.	[7]
5. (a) Define selectivity and sensitivity.	[2]
(b) Explain one of the method of SSB-SC generation.	[5]
(c) Discuss the generation of Delta Modulation with a neat block diagram.	[7]
6. (a) What is MODEM?	[2]
(b) Discuss the block diagram of FM Receiver.	[5]
(c) Give the brief description of PCM Transmitter and Transmission Path.	[7]
7. (a) Define channel capacity.	[2]
(b) Explain demodulation of QPSK Signal with proper receiver diagram.	[5]
(c) Describe the generation and demodulation of ASK with Proper diagram.	[7]
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Collected	Bv:-
Er. Paramanan (Dept. of ETC, VCP E	da Gouda ngg School)

Previous Vear Semester Question of Communication Engineering - $I = [A^{TH} ETC - ETT 403]$	
IV CENT / E 2- TC / 2018(C) [12-05-2018.	$\frac{121}{REG1}$
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COMMUNICATION ENGINEERING - I	
Sub Code – $ETT-403$	
Full Marks: 70	
Answer any EIVE Questions	
The figures in the right hand margin indicate marks	
The figures in the right-hand margin thatcale marks	
1. (a) What is sampling theorem?	[2]
(b) Explain quantization of signal and quantization error.	[5]
(c) With proper block diagram, define & explain the elements of communication system.	[7]
2. (a) Define modulation index for Frequency Modulation (FM).	[2]
(b) Derive the expression for AM wave and calculate the power content in AM wave.	[5]
(c) State the working of Superhetrodyne receiver with block diagram.	[7]
3. (a) Define Selectivity of a receiver.	[2]
(b) Compare between AM and FM.	[5]
(c) Discuss the generation of QPSK with a neat circuit diagram.	[7]
4. (a) Define Spread Spectrum.	[2]
(b) Define the following terms: - (i) BIT (ii) BAUD (iii) Symbols (iv) Channel Capacity.	[5]
(c) Derive the expression for Frequency Modulation (FM) signal and explain how we can	
Generate FM by using PM.	[7]
5. (a) Define analog and digital signal.	[2]
(b) State the advantages of digital communication system.	[5]
(c) Explain ring modulator method of generation of DSB-SC signal with neat diagram.	[7]
((a) What are the concreting matheds for SCD SC Signal?	[9]
(a) what are the generating methods for SSB-SC Signal? (b) Explain Linear Diode detector method of AM demodulator with next block diagram	[4] [5]
(b) Explain Elliear Diode detector method of Aivi demodulator with heat block diagram.	[J] [7]
(c) Explain about adaptive delta modulation and its advantages over delta modulation.	[,]
7. (a) What is PAM?	[2]
(b) What is time division multiplexing? Explain the operation of TDM.	[5]
(c) Explain the working of T-Carrier System with a neat diagram.	[7]
Collected By:-	
Er. Paramananda Gou	ła
(Dept. of ETC, VCP Engg Sci	hool)

Previous Vear Semester Question of Communication Engin	Description I $\begin{bmatrix} 4^{\text{TH}} & \text{FTC} & \text{FTT} & 403 \end{bmatrix}$ Dage $\begin{bmatrix} 3 \end{bmatrix}$
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	$\mathbf{NCINEEDINC} \mathbf{I}$
COMMUNICATION E	INGINEEKING - I
Sub Code – El	ГТ-403
Full Marks	: 70
Time: 3 Ho	ours
Answer any FIVE	Questions
The figures in the right-hand r	margin indicate marks
1. (a) Define Channel Bandwidth (B.W.)	[2
(b) State and explain square law detector with a nea	at circuit diagram. [5
(c) State the method of generation and detection of	DSB-SC signal with neat block diagram. [7
2. (a) Define Frequency Division Multiplexing (FDM)). [2
(b) Derive the expression for Frequency Modulated	Signal and find modulation Index. [5
(c) Explain the principle of operation of FM demod	lulation using Foster Seely Discriminator
with a heat block diagram	[7]
3. (a) Define PLL	[2
(b) State and explain SSB Signal and DSB-SC Sign	al. [5
(c) Discuss FM Generation using Armstrong metho	d with a neat block diagram. [7
4. (a) Define Fidelity and Noise Figure of a receiver.	[2
(b) Explain the working of Stereophonic FM Receiv	ver with block diagram. [5
(c) State the working of Superhetrodyne radio recei	ver with block diagram. [7
5. (a) State and explain Nyouist rate and aliasing in PO	СМ [2
(b) Discuss the generation and detection of PWM S	ignal. [5
(c) Explain the generation and demodulation of PC	M Signal. [7
6. (a) State Quantization Error.	[2
(b) Define Companding in PCM and vocoder.	[5
(c) Explain the generation and demodulation of Ada	aptive Delta Modulation. [7
7. (a) Define Spread Spectrum and its application	[2
(b) Explain operation of Spread Spectrum modulation	on techniques (DS-SS and FH-SS). [5
(c) Discuss the generation and detection of binary I	DPSK and QPSK Signal. [7
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	Collected By:-
	Er. Paramananda Gouda
	(Dept. of ETC, VCP Engg School)
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Previous Year Semester Question of Communication Engineering - I [4 TH ETC - ETT 403] P a g e	4
IV-SEM / E & TC / 2017(S) [APR-2017	, REG]
COMMUNICATION ENGINEERING - I	
Sub Code – ETT-403	
Full Marks: 70	
Time: 3 Hours	
Answer any FIVE Questions	
The figures in the right-hand margin indicate marks	
1. (a) Define Analog and Digital Signals	[2]
(b) With its neat block diagram explain the Balanced Modulator of DSB-SC generation.	[5]
(c) Describe the operation of Linear Diode detector.	[7]
2. (a) What is modulation Index of AM Signal and Give its importance?	[2]
(b) State Multiplexing. Explain operation of Frequency Division Multiplexing.	[5]
(c) Describe the parameter variation method of FM generation.	[7]
3. (a) Define Selectivity and sensitivity of receiver.	[2]
(b) State the working of FM receiver with Block diagram.	[5]
(c) Explain the principle of operation of FM Forster-seely Discriminator Demodulator.	[7]
	[0]
4. (a) What is DSB-SC? (b) Explain the working of Storeophonic FM Receiver	[2]
(c) State the working of Superhetrodyne radio receiver with block diagram	[J] [7]
(c) State the working of Supernetrodyne radio receiver with brook diagram.	[,]
5. (a) State Sampling Theorem and classify Sampling.	[2]
(b) Discuss the comparison between AM and FM Modulation.	[5]
(c) Describe the generation and detection of PAM.	[7]
6 . (a) State Shannon Theorems	[2]
(b) Classify digital modulation Techniques.	[5]
(c) Describe the generation of Delta Modulator.	[7]
7. (a) Define Aliasing.	[2]
(b) Explain the working of 1-Carrier System.	[5]
(c) Describe the generation of PCIVI System.	[/]
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	Previous Year Semester Question of Communication Engineering - I [4 TH ETC - ETT 403] P a g e	5
	IV-SEM / E & TC / 2016(S) <apr-2016< th=""><th>ó, REG></th></apr-2016<>	ó, REG>
	COMMUNICATION ENGINEERING - I	
	Sub Code – ETT-403	
	Full Marks: 70	
	Time: 3 Hours	
	Answer any FIVE Questions	
	The figures in the right-hand margin indicate marks	
1.	(a) Define Analog and Digital signal.	[2]
	(b) Discuss concept of Multiplexing & explain operation of Frequency Division Multiplexing	ng.
	(c) Describe the operation of Envelop detector with a neat diagram.	[7]
2.	(a) What is Modulation Index of AM?	[2]
	(b) Derive the power relation in AM wave.	[5]
	(c) With a neat diagram explain the working of ring modulation.	[7]
3.	(a) Write down the disadvantages of Delta Modulation.	[2]
	(b) Explain the working principle of FM stereophonic Transmitter.	[5]
	(c) Describe the principle of operation of Forest-Seeley discriminator.	[7]
4.	(a) Define the term Selectivity.	[2]
	(b) Discuss each block of FM receiver with a neat diagram.	[5]
	(c) With proper diagram describe the operation of super heterodyne Receiver.	[7]
5.	(a) What is Modulation?	[2]
	(b) Explain the operation of the Direct Method of Frequency Modulation.	[5]
	(c) Describe the working of PCM Modulation and PCM Demodulation.	[7]
6.	(a) What is Repeater and why it is essential?	[2]
	(b) Discuss the term given below:	[5]
	(I) Sampling (II) Nyquist rate (III) Nyquist Interval (IV) Aliasing	
	(c) Describe the operation of PAM Modulation.	[7]
7.	(a) State the difference between envelope and square law detector.	[2]
	(b) Explain the worker of PWM communication system.	[5]
	(c)Describe the operation of ASK Modulation and Demodulation.	[7]
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	Collected By:-	
	Er. Paramananda Gou	da
	(Dept. of ETC, UCP Engg Schoo	<i>त.</i>)
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IV-SEM / E & TC / 2015(S) <apr-2015, reg<br="">COMMUNICATION ENGINEERING - 1 Sub Code – ETT-403 Full Marks: 70 Time: 3 Hours Answer any FIVE Questions The figures in the right-hand margin indicate marks 1. (a) Define analog and digital signals. [2] (b) Explain the Balanced Modulator with its diagram. [2] (c) Describe the operation of linear diode detector for AM demodulation with neat diagram. [2] (a) What is Channel Bandwidth? [2] (b) Define Multiplexing. Explain operation of Frequency Division Multiplexing. [3] (c) With neat diagram describe the principle of operation of FM Foster-Seeley Discriminator. [2] 3. (a) What is selectivity of Receiver? [2] (b) State the working of FM receiver with block diagram. [2] (c) Describe the working of super heterodyne radio receiver with block diagram. [2] (b) Explain the generation process of ASK and demodulation of ASK. [3] (c) Describe the generation and detection of PAM communication system. [3] (a) What is DSB-SC? [2] (b) Discuss the Comparison between AM and FM Modulation. [4] (c) Describe the operation of Stereophonic FM Receiver. [5] (c) Mith neat diagram of Delta Modulator. [6] (c) Describe the generation of Delta Modulator. [7] 7] (a) Name the disadvantages of Delta Modulator. [6] (b) Explain the one of the SSB-SC Modulation or Generation Method. [6] (c) Describe the generation of Delta Modulator. [7] (c) Explain operation of Stereophonic FM Receiver. [6] (c) Describe the generation of Delta Modulator. [7] (c) Explain operation of Spread Spectrum modulation technique (DS-SS) with neat diagram. [7] Collected By:- Collected By:- Er. Paramananada Gouda (Dept. of ESC, DCCP Engg Selocal</apr-2015,>	Ċ.	Previous Year Semester Question of Communication Engineering - I [4 TH ETC - ETT 403] P a g e	6
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&&&&&&&		(c) Explain operation of Spread Spectrum modulation technique (DS-SS) with neat diagram.	[7
Collected By:- Er. Paramananda Gouda (Dept. of ETC, VCP Engg School)		-∽©ॐ ALL THE BEST∞@ॐ@∞	
Er. Paramananda Gouda (Dept. of ETC, VCP Engg School)		Collected By:-	
(Dept. of ETC, UCP Engg School)		Er. Paramananda Goud	a
		(Dept. of ETC, VCP Engg School))

	Previous Year Semester Question of Communication Engineering - I [4 TH ETC - ETT 403] P a g e	7
	IV-SEM / E & TC / 2014(S) <apr-2014, i<="" th=""><th>REG></th></apr-2014,>	REG>
	COMMUNICATION ENGINEERING - I	
-	Sub Code – ETT-403	
-	Full Marks: 70	
-	Time: 3 Hours	
-	Answer any FIVE Questions	
-	The figures in the right-hand margin indicate marks	
1.	(a) What are the classifications of communication systems?	[2]
_	(b) State and explain amplitude modulation and derive the expression for amplitude modulation	on
-	Signal power relation.	[6]
	(c) State and explain the generating and detection of SSB signal using any one of method.	[8]
-		
2.	(a) Define power channel band width.	[2]
	(b) Discuss the concept of multiplexing and explain the operation of frequency division	[5]
-	(c) Explain the methods of generation DSB-SC signal (Ring modulator) with neat circuit	[5]
	diagram and draw the DSB-SC signal waveform.	[8]
-		
3.	(a) Define frequency modulation and modulation.	[2]
	(b) Define phase modulation and compare the AM and FM modulation.	[6]
-	(c) Explain the working principle of FM stereophonic transmission with neat block diagram.	[8]
4.	(a) Define the principle of heterodyne.	[2]
-	(b) Draw the block diagram of FM receiver and explain the working of each block.	[-]
-	(c) Explain the principle of operation of Foster Seeley detector using a neat circuit diagram a	nd
-	Draw its phase relations.	[8]
_		
5.	(a) Define noise figure.	[2]
	(b) State and explain Sampling theorem and Nyquist rate. (c) Explain the working of $T_{carrier}$ system with a peat diagram	[0] [8]
-	(c) Explain the working of 1-carrier system with a heat diagram.	[0]
6.	(a) What is modem and give its applications.	[2]
	(b) Explain the generation and demodulation of delta modulation system.	[6]
	(c) What is spread techniques & explain direct sequence spread spectrum method with diagra	.m.
7.	(a) Define Shannon Theorem.	[2]
	(b) Explain method of generation & detection of DPSK technique with neat block diagram.	[6]
	(c) Explain the Gaussian minimum shift keying (GMSK) digital communication technique.	[8]
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IV-SEM / E & TC / 2013(S) <apr-2013, r<="" th=""><th></th></apr-2013,>	
$10^{-5}EWI / E & 10^{-7} 2013(5)$	(EG>
COMMUNICATION ENGINEERING - I	
Sub Code ETT-403	
Full Marks: 70	
Time: 3 Hours	
Answer any FIVE Questions	
The figures in the right-hand margin indicate marks	
The figures in the right-hand margin thatcale marks	
1. (a) Define source of information.	[2]
(b) Define analog and digital signal and communication channels.	[0] [9]
(c) State and explain the working of square law AM detector with a heat circuit diagram.	႞၀၂
2. (a) Define percentage of modulation.	[2]
(b) State and explain SSB signal and DSBSC signal.	[6]
(c) State and explain amplitude modulation and derive the expression for AM signal, power	
relation in AM wave and find modulation index.	[8]
3 (a) Define modulation index for EM and what is its important	[2]
(b) Explain Armstrong method for FM generation with neat circuit diagram	[2]
(c) Explain the working of FM stereophonic FM transmitter with a neat block diagram.	[8]
4. (a) What is alignment of radio receiver?	[2]
(b) State and explain the terms Selectivity, Sensitivity and Fidelity.	[6]
(c) Explain the Working of FM Receiver With a block diagram.	[8]
5. (a) Define Nyquist rate.	[2]
(b) Explain the working off-carrier system.	[6]
(c) Explain the generation and demodulation of Adaptive Delta Modulation method.	[8]
6 (a) What is DI I 9	[2]
(a) what is TLL: (b) Explain method for generation & Detection for OPSK Digital Communication System	[4]
(c) What is spread spectrum and explain the operation of DS-SS-modulation techniques?	[8]
	[~]
7. (a) What is Modem, and. where it is used?	[2]
(b) State the advantages and disadvantages of Digital Communication System.	[6]
(c) Explain generation and demodulation of PCM.	[8]
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EV. PARAMANAA GOUA (Date at STC IICD Suna Salad)	N)
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Ŵ	Previous Year Semester Question of Communication Engineering - I [4 TH ETC - ETT 403] P a g e 9
	IV-SEM / E & TC / 2012(S) <apr-2012, reg=""></apr-2012,>
	COMMUNICATION ENGINEERING - I
	Sub Code – ETT-403
	Full Marks: 70
	Time: 3 Hours
	Answer any FIVE Ouestions including O. No. 1 and 2
	The figures in the right-hand margin indicate marks
1.	Answer ALL question: [2x10]
	(a) What are the sources of information?
	(b) What are the advantages of SSB over DSB?
	(c) Why AM is useful?
	(d) Define Multiplexing.
	(e) What do you mean by frequency deviation in frequency modulation?
	(f) Define noise figure and state its significance.
	(g) What is the difference between sampling and Quantization?
	 (i) What is quadrature modulation?
	(i) Name the components of PLI
	(j) Name the components of TEE.
2.	Answer any SIX question of the following: [6 X 5]
	(a) Explain the operation of balanced modulator.
	(b) Derive the expression for frequency modulated signal.
	(c) Explain the operation of Armstrong FM transmitter.
	(d) Explain the working of T-carrier system.
	(e) Explain the concept of delta modulation.
	(f) Explain briefly about PSK technique.
	(g) Define modem and state its application. (b) Explain the principle of working of SSP system
	(n) Explain the principle of working of SSB system.
3.	State & explain AM and derive expression for AM & find signal power relation of AM wave. [10]
4.	Describe working of Foster-Seely discriminator FM demodulation method with neat diagram. [10]
5.	Draw the block diagram of a Superhetrodyne receiver and explain function of each block. [10]
6.	Explain the principle of operation of PCM encoder and decoder using block diagram. [10]
7.	Explain the operation of direct sequence spread spectrum modulation technique. [10]
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	Collected By:-
	Er. Paramananda Gouda (Dept. of ETC, VCP Engg School)

