Course code- 19ECE0448 **R19**

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: ICS (19EC0448) **Course & Branch**: B.Tech - CSE

Year & Sem: II-B.Tech & I-Sem **Regulation:** R19

UNIT I

1	A)	What is communication system?	L1	CO1	2M
	B)	What are the classifications?	L2	CO1	1M
	C)	Describe the elements of communication systems.	L1	CO1	7M
2	A)	Define wired & wireless communication.	L1	CO1	3M
	B)	Compare Analog & Digital Communication systems.	L2	CO1	7M
3	A)	What is Modulation? Classification.	L1	CO1	4M
	B)	Explain why we need modulation in communication systems?	L2	CO1	6M
4	A)	What is amplitude modulation express with mathematical equations?	L1	CO1	6M
	B)	What is modulation index?	L1	CO1	4M
5	A)	Generalize Single tone AM equations.	L4	CO1	6M
	B)	Calculate the power content in AM wave.	L3	CO1	4M
6	A)	Write down in how many ways AM can be generated?	L2	CO1	4M
	B)	Define low level AM wave generation with proper block diagram.	L1	CO1	6M
7		Write down about superheterudyne receiver (AM RECEIVER).	L1	CO1	10M
8	A)	Define high level AM wave generation with proper block diagrams	L1	CO1	6M
	B)	What is the square law detectors demodulation?	L1	CO1	4M
9	A)	Describe demodulation of AM wave with envelope detector.	L1	CO1	4M
	B)	Why we don't use AM (DSB-FC) or Disadvantages.	L1	CO1	6M
10	A)	Explain DSB-SC Amplitude modulation with mathematical equations.	L4	CO1	5M
	B)	Write down how to generate DSB-SC waves.	L1	CO1	5M

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UNIT II

1	A)	Define Angle Modulation.	L1	CO2	3M
	B)	Explain different types of Angle modulation techniques with mathematical equations.	L2	CO2	7M
2	A)	What are different types of demodulation techniques?	L1	CO2	4M
	B)	What is frequency deviation?	L1	CO2	4M
	C)	How PM & FM related to each other?	L1	CO2	2M
3	A)	Compare PM & FM.	L4	CO2	8M
	B)	What is carrier signal in FM.	L1	CO2	2M
4	A)	Define single tone FM with mathematical equation.	L1	CO2	8M
	B)	What is modulation index for FM?	L1	CO2	2M
5	A)	Classify Frequency modulation techniques.	L2	CO2	2M
	B)	What is narrowband FM & wideband FM?	L1	CO2	5M
	C)	What is percent modulation for FM?	L1	CO2	3M
6	A)	How one can generate Narrowband FM wave?	L1	CO2	6M
	B)	Write down the expression for single tone Narrowband FM.	L1	CO2	4M
9		Write down about Wideband FM.	L1	CO2	10M
10	A)	Compare Narrowband & Wideband FM.	L4	CO2	7M
	B)	What is Carson's rule?	L1	CO2	3M

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UNIT III

1	A)	What is Noise in communication system?	L1	CO1	2M
	B)	Write down about the different types of noises?	L1	CO1	8M
2		Write down the short notes on : Shot noise ; Noise figure; SNR; Thermal noise; White Noise	L1	CO1	2x5M
3	A)	State sampling theorem.	L1	CO1	3M
	B)	What is nyquist rate & nyquist interval?	L1	CO1	4M
	C)	What is Interpolation formula?	L1	CO1	3M
4	A)	Classified sampling theorem.	L1	CO3	6M
	B)	What is antialiasing?	L1	CO1	4M
5	A)	What is analog pulse modulation? Classify.	L1	CO2	3M
	B)	Write down about PAM with its mathematical analysis.	L1	CO2	7M
6	A)	Calculate the bandwidth of a Pulse Amplitude Modulation wave.	L1	CO2	4M
	B)	What is the process of demodulation of PAM signals?	L1	CO2	6M
7	A)	Define Pulse Time Modulation & classify it with proper diagram.	L1	CO2	5M
	B)	How one can generate a PWM wave?	L1	CO2	5M
8	A)	Describe Demodulation technique of PWM signal.	L1	CO2	5M
	B)	What are the drawbacks of PWM signals?	L1	CO2	2M
	C)	Write down the disadvantages of PAM signals.	L1	CO2	3M
9	A)	Write down about generation of PPM signal.	L1	CO2	5M
	B)	Elaborate demodulation of PPM signal.	L1	CO2	5M
10		Compare PAM, PWM & PPM techniques.	L4	CO2	10M

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UNIT IV

1	A)	Describe the elements of Digital communication system.	L1	CO3	6M
	B)	What is sampling?	L1	CO3	4M
2	A)	How many sampling techniques are there?	L1	CO3	4M
	B)	What is Quantization & Quantization Noise?	L1	CO3	6M
3	A)	Define PCM with proper block diagram.	L1	CO3	6M
	B)	What is ADC?	L1	CO3	2M
	C)	Calculate transmission BW of PCM.	L3	CO3	4M
4	A)	Write down about a receiver of a PCM with block diagram.	L1	CO3	5M
	B)	Explain different types of Quantizer.	L3	CO3	5M
5	A)	What is DPCM?	L1	CO3	2M
	B)	Describe DPCM transmitter & receiver.	L1	CO3	8M
6	A)	What are the drawbacks of DPCM?	L1	CO3	3M
	B)	What is delta modulation? Define it properly with diagram.	L1	CO3	7M
7	A)	Compare PCM,DPCM & DM.	L4	CO3	5M
	B)	What is passband transmission?	L1	CO4	2M
	C)	How many digital modulation techniques are there? Write down the names.	L1	CO4	3M
8	A)	Explain ASK modulation.	L1	CO4	5M
	B)	Describe ASK demodulator.	L1	CO4	5M
9	A)	Write a short note on BPSK modulation & demodulation.	L1	CO4	5M
	B)	What is BFSK?	L1	CO4	5M
10		Compare ASK, BPSK & BFSK.	L4	CO4	10M

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UNIT V

1	A)	What is Mobile radio communications?	L1	CO6	2M
	B)	What is wireless communication system?	L1	CO6	2M
	C)	Give some examples of wireless communications.	L1	CO6	2M
	D)	What is telephonic system?	L1	CO6	2M
	E)	What is Paging & cordless telephonic systems?	L1	CO6	2M
2	A)	What is 1G cellular system?	L1	CO6	5M
	B)	Write down about 2G & 2.5G cellular system.	L1	CO6	5M
3	A)	What is 3G cellular system?	L1	CO6	5M
	B)	Short note on 4G system.	L1	CO6	5M
4		Explain a structure of a mobile cellular system.	L4	CO6	10M
5	A)	What is frequency reuse?	L1	CO6	6M
	B)	What is cell?	L1	CO6	4M
6		Explain a geographical structure of a mobile cellular network with proper diagram.	L4	CO6	10M
7	A)	What is GSM?	L1	CO6	3M
	B)	What is Base station?	L1	CO6	2M
	C)	What is MSC?	L1	CO6	3M
	D)	What is handover?	L1	CO6	2M
8	A)	What is multiple access?	L1	CO6	3M
	B)	Classify multiple access techniques.	L1	CO6	2M
	C)	What is FDMA?	L1	CO6	5M
9	A)	Explain TDMA.	L1	CO6	5M
	B)	Describe CDMA.	L1	CO6	5M
10	A)	What is SDMA, explain.	L1	CO6	5M
	B)	What is LTE?	L1	CO6	3M
	C)	What is PSTN?	L1	CO6	2M