Code No: **R31046** **R10** **Set No. 1**

III B.Tech I Semester Supplementary Examinations, October/November - 2017

DIGITAL COMMUNICATIONS

(Electronics and Communication Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks

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1	a)	With a neat block diagram, explain briefly about the elements of digital communication system.	[7M]
	b)	Draw the block diagram of PCM scheme. Explain each block.	[8M]
2	a)	What is Delta modulation and compare it with PCM?	[8M]
	b)	Explain the noise effects in Delta modulation systems.	[7M]
3	a)	Write the comparison among binary modulated band pass signaling schemes (ASK,PSK and FSK)	[8M]
	b)	Define M-ary signaling scheme. Derive an expression for the bit rate in M signaling scheme.	[7M]
4	a)	Explain correlation receiver with block diagram. Also explain why the correlation receiver is also called an integrated and dump filter.	[8M]
	b)	Calculate the error probability of the BFSK.	[7M]
5	a)	Prove that I(X,Y) = H(X) - H(X/Y)	[7M]
	b)	Define entropy and explain about the important properties of entropy.	[8M]
6	a)	Mention the two important implications of Shannon-Hartley theorem.	[8M]
	b)	Discuss in brief about continuous channel capacity.	[7M]
7	a)	Discuss about binary cyclic codes.	[7M]
	b)	Explain about the parity check bit coding for error detection with a suitable example.	[8M]
8	a)	Distinguish block codes and convolutional codes.	[6M]
	b)	Explain majority logic decoding in convolutional code.	[9M]

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