

CRM08	Rev 1.10	<EC>	11/05/22
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### CONTINUOUS INTERNAL EVALUATION - 1

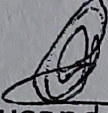
Dept:EC	Sem / Div: 6 <sup>th</sup> A&B	Sub: Digital Communication	S Code: 18EC61
Date:16/05/22	Time: 9:30-11:00 am	Max Marks: 50	Elective:N

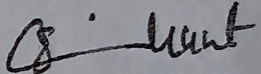
Note: Answer any 2 full questions, choosing one full question from each part.

QN	Questions	Marks	RBT	CO's
<b>PART A</b>				
1	a Define power spectral density. Draw the power spectra of Unipolar NRZ, Bipolar RZ and manchester code.	10 8	L2	CO1
	b Define Hilbert Transform. State the properties of it.	7	L2	CO1
	c Explain HDBN signalling with an example.	8	L2	CO1
<b>OR</b>				
2	a Define the complex envelope of bandpass signals. Obtain the canonical representation of bandpass signals.	10	L3	CO1
	b Write short note on B8ZS and B6ZS.	7	L2	CO1
	c Obtain the Hilbert transform of $g(t) = \text{Sinc}(t)$	8	L3	CO1
<b>PART B</b>				
3	a Derive the expression for the complex low pass representation of band pass systems.	9	L3	CO1
	b Explain the time domain procedure for complex representation of band pass signals and systems.	8	L2	CO1
	c Obtain the Hilbert transform of $x(t) = \text{Sin } 2\pi fct$ .	8	L3	CO1
<b>OR</b>				



4	a	What is line coding? For the binary stream 01101001 sketch the following: i) Unipolar NRZ, ii) Polar NRZ, iii) Unipolar RZ, iv) Bipolar RZ, v) Manchester code	10	L2	CO1
	b	Define pre-envelop of a real valued signal. Given a band pass signal $s(t)$ , sketch the amplitude spectra of signal $s(t)$ , pre-envelop $s_+(t)$ , complex envelop of $s(t)$ .	7	L2	CO1
	c	Obtain the Hilbert transform of $x(t) = \text{Cos } 2\pi fct$ .	8	L3	CO1

Prepared by:  Gurusandesh M

  
HOD

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