



Vivekananda College of Engineering & Technology

[Sponsored by Vivekananda Vidyavardhaka Sangha, Puttur ®]

Affiliated to Visvesvaraya Technological University

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CRM08

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FY

17/08/2015

INTERNAL ASSESSMENT TEST - 1

Dept: ECE	Sem / Div: I/E,F,G,H	Sub: BASIC ELECTRONICS	S Code: 15ELN15
Date: 22/08/15	Time: 9:30AM-11AM	Max Marks: 40	Elective: N

Note: Answer any 2 full questions.

QN	Questions	Bloom's Level	Marks
1	a Draw and explain the block diagram of typical communication system?	L2	8
	b Give the comparison between AM and FM	L2	6
	c Briefly explain need for modulation in communication system.	L2	6
2	a Explain the method of measuring displacement using LVDT with relevant diagrams. Also mention the advantages and disadvantages of LVDT.	L2	8
	b Write a note on piezoelectric transducer.	L2	4
	c Analyze the AM detector circuit	L4	8
3	a Prove that $P_t = P_c \left(1 + \frac{m^2}{2}\right)$	L3	5
	b Define Amplitude modulation and derive the expression for AM with relevant waveforms. Draw the frequency spectrum.	L2	9
	c An audio frequency signal $10\sin(2\pi*500)t$ is used to amplitude modulate carrier of $50\sin(2\pi*10^5)t$. Calculate	L3	6
	i) Modulation index.		
	ii) Sideband frequencies		
	iii) Band width.		
	iv) Amplitude of sideband frequencies		
	v) Total power delivered to a load of 600Ω		
	vi) Transmissions efficiency		

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Page: 1