Code No: 115AK

HOUSE TOTAL

(2) NO. 1

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD B.Tech III Year I Semester Examinations, February/March - 2016 ANALOG COMMUNICATIONS

(Electronics and Communication Engineering)

Time: 3 hours 養糕

Max. Marks: 75

Note: This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units Answer any one full question from each unit Each question carries 10 marks and may have a, b, c as sub questions.

Part- A

		· PERMIC AL	KEN EN	148.4	57	45,500	84	gerban.
1.a)	As related to AM	what is	L Olivon ma - J.		_	Killer 45	EADN"	(25 Marks)
	As related to AM,	WIIGE 18	over modu	lation, und	ler modula	ation and 1	.00% n	nodulation
	•		_					TOGULALIOII.

b)	Determine the double of		TC1	
	occurrence debite Of the	modulation for AM transmitter after modulation.	which and a court	
1	modulation and 10.125kW	after modulation	which radiates 9kW withou	ıt .
c)	Give the advantages for G:	arto moduladon.	ĨŽ	

the advantages for Single sideband suppressed-carrier modulation. d). Give the methods of generating SSB-SC-AM. And mentio [2]

	SSBSC.	ZAUTENA ZAUTENA	- / _/ 6	L 1 111	· WING	mention	some appli	cations	Λf
		4384		/					Ož
e)	Define the modu	ilation :	_ 32		44 a 19.			#3]	
Δ.	are mode	manoll (naices of F	Mand PM				F-2.1	

Give the comparisons between AM and FM. **f**). [2] g) [3]

What is signal-to-poise ratio. How to achieve threshold reduction in FM receiver. h) [2]

i) 131

84

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84

Explain why some of the information signal is lost during pulse modulation. Write a note on amplitude limiting [2] [3]

Part-B

Explain the generation of AM signals using square law modulator. 2. (50 Marks) [10]OR 3.

Discus the coherent detection of DSB-SC modulated wave with a block diagram of [10]

Draw the block diagram for the generation and demodulation of a VSB signal and 4. explain the principle of operation. OR

鉀 5. In a coherent detection if carrier applied is $\cos(2\pi f_c t + \phi)$ prove that there is a phase error in the output and output consists not only the message signal but also its Hilbert [10]

With a neat block diagram explain the generation of narrow band and wide band FM. 6. HONE TO [10]

OR 概 7. Derive the expression for the spectrum of a FM signal with single tone modulation.

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	8. I	Draw the band compar	lock diag	am of FI	M demodul	ator and ex	xplain the e	100	oise in detail	
			IN SERVICE OF THE PERSON OF TH	22 S		with me b	resence of	noise.	[10]	
							ind de-empl		I. [10]	
	10. <u>F</u>	raw the blue of the the adva	ock diagra ntages of t	m of a su his receiv	per heterod er?	yne receive	er and expla	ain its oper	ation? What	e e partir de la companya de la comp
	11. W	hat is Au	tomatic G	ain Contr	OR	o roccius	, 1 771		[10] ent types of	
	ā A	GC, explai	in in detail	?	SH SH	o teceiver!	what are	the difference	ent types of [10]	dia yes
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