		(5 Hours) [10tal Marks: 60	7
Note	•		
1 1000		Question 1 is compulsory	
		Solve any three questions out of remaining	
		Assume suitable data wherever necessary	
	( )		
Q.1		Solve any four	[20]
	(a)	Draw and explain in brief the output characteristics of CE configuration.	
	(b)	In the Colpitts oscillator, C1=0.2 $\mu$ F and C2 =0.02 $\mu$ F. If the frequency of	
		the oscillator is 10kHz, find the value of the inductor and the required gain	2
	(c)	Draw and explain in brief: block diagram of typical OP-AMP.	
	(d)	Draw and explain in brief: block diagram of the SSB modulation system.	
	(e)	Draw and explain basic block diagram of the digital communication	
		system	
Q.2	(-)	Discount with a contract of the state of the	F101
	(a)	Discuss the principle of amplitude modulation .Draw and explain the block	TIO
	(b)	diagram of the A M transmitter.  State necessity of biasing. Draw circuit and explain collector feedback	[10]
	(b)	biasing circuit.	[10]
		blashing circuit.	
Q.3	(a)	Draw the equivalent op-amp circuit and draw and explain the transfer	[10]
Q.S	/ (a)	characteristics of Op-Amp.	Frol
	(b)		[10]
		operating frequency of 3kHz draw the circuit diagram and output	[±0]
		waveform for the given input voltages.	
Q.4	(a)	Explain Frequency demodulation using Foster–Seely discriminator.	[10]
	(b)	In a low level AM modulator with a modulation coefficient m=0.8 a	[10]
	4	quiescent gain Aq =100,an input carrier frequency fc=500kHz with	
		amplitude Vc=5mV, and a 1000Hz modulating signal find the maximum	
		and minimum voltage gains and the respective output voltage.	
Q.5	(a)	Determine the deviation ratio and worst-case bandwidth for an FM system	[10]
		with a maximum frequency deviation of 40kHz and a maximum	
		modulating-signal frequency fm=10kHz.	
	(b)	Explain: (i) Information (ii) Entropy (iii) Information rate (iv) Channel	[10]
		capacity.	
	( )		<b>[20]</b>
Q.6	(a)	Write Short notes (Any Four)	[20]
		(i) comparison of DM and ADM	
		<ul><li>(ii) Summer amplifier.</li><li>(iii) Schmitt trigger.</li></ul>	
		(iii) Schmitt trigger. (iv) Class A Power amplifier	
		(IV) Class A I Owel amplified	
	N. Y		
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