

	(b)	Explain Sum of Product and Simplify $\Sigma(3,7,11,12,13,14,15)$	7
Q-4		Attempt all questions	(14)
	(a)	Explain 3 to 8 line Decoder with proper circuit.	7
	(b)	Explain POS and Simplify $\pi(0,1,2,4,5,6,8,9,10)$	7
Q-5		Attempt all questions	(14)
	(a)	What is Shift Register? Explain 8-bit Shift Register with proper circuit.	7
	(b)	Draw following circuit.	7
		1) $f = (pq + p'q')$	
		2) $f = a'b + b'c + ac'$	
Q-6		Attempt all questions	(14)
	(a)	Explain J-K Flip Flop with proper circuit.	7
	(b)	What is Asynchronous Counter? Explain 8-bit Shift Counter.	7
Q-7		Attempt all questions	(14)
	(a)	Explain TTL with their different types.	7
	(b)	Write a short note on MOS and CMOS.	7
Q-8		Attempt all questions	(14)
	(a)	Write a note on Emitter coupled logic.	7
	(b)	Explain 1X4 De-Multiplexer.	7

