Seat No.:	Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER-IV • EXAMINATION – SUMMER 2013

Subject Code: 744201		Code: 744201 Date: 14-05-2013	Date: 14-05-2013	
Su	bject	Name: Silicon on Insulator		
Tir	ne: 10	0.30 am - 01.00 pm Total Marks: 70		
Inst	tructio			
		Attempt all questions.		
	2. 3.	r		
	3.	Figures to the right indicate full marks.		
Q.1	(a)	Draw and explain the structure of SOI nMOS and pMOS.	07	
	(b)	Discuss the various steps of SOI fabrication process.	07	
Q.2	(a)	Explain the effect of vertical filed on the mobility of SOI Devices.	07	
	(b)	What is the effect of Body Contact on PD SOI?	07	
		OR		
	(b)	Write a short note on DTMOS.	07	
Q.3	(a)	Give the comparison between SOI and Bulk COMS technology.	07	
	(b)	Explain the use of SOI Technology in Market with suitable examples.	07	
		OR		
Q.3	(a)	Explain the basic circuit issues for SOI?	07	
	(b)	Explain single stage SOI Low Noise Amplifier.	07	
Q.4	(a)	What is History Effect explain with respect to SOI?	07	
	(b)	Explain the Short Channel Effect for SOI Devices.	07	
		OR		
Q.4	(a)	Draw and explain the 4-bit SOI flash ADC	07	
	(b)	Explain the Single electron transistor.	07	
Q.5	(a)	Writ a short note on PD SOI and FD SOI.	07	
	(b)	Explain the effect of lateral filed on the mobility of SOI Devices.	07	
	()	OR		
Q.5	(a)	Write a short note on SOI CPL and CSVL Circuits.	07	
	(b)	Explain Continuous Time SOI Filter.	07	
