Seat No.:	Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER-IV • EXAMINATION – SUMMER 2015 Subject Code: 744201 Date: 01/05/2015 Subject Name: Silicon on Insulator Time: 2:30 pm to 5:00 pm Total Marks: 70 Instructions:			
	1.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks	
Q.1	(a) (b)	Write a short note on DTMOS. Writ a short note on PD SOI and FD SOI.	07 07
Q.2	(a) (b)	Explain the Single Electron Transistor. Explain the basic circuit issues for SOI? OR	07 07
	(b)	Write a short note on SOI CPL and CSVL Circuits.	07
Q.3	(a) (b)	Discuss in brief in Noise in SOI Circuit. Explain SOI MTCMOS logic circuit. OR	07 07
Q.3	(a) (b)	Draw and explain the structure of SOI nMOS and pMOS. Explain the various steps of SOI fabrication process.	
Q.4	(a) (b)	Explain Self-Heating phenomenon in SOI. Discuss in brief operation principles of the dynamic floating body-control SOI CMOS circuits.	07 07
		OR	
Q.4	(a) (b)	Explain in brief DTPT and ADTPT. Explain in brief Race Problems in SOI Dynamic Logic Circuits.	07 07
Q.5	(a) (b)	Compare SOI v/s Bulk COMS Technology. Explain in brief History Effect in SOI? OR	07 07
Q.5	(a) (b)	Explain SOI Technology in Market with suitable examples. Explain the Short Channel Effect for SOI Devices	07 07
