Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER_IV(NEW) EXAMINATION – SUMMER - 2017

Subject Code: 2744201 Subject Name: Silicon on Insulator			Date:03/05/2017	
Ti	•	2:30 pm to 05:00 pm Total Marks: 7	0	
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a) (b)	Give the comparison between Fully Depleted SOI Partially Depleted SOI? With suitable diagrams and equations discuss the Hot carrier Effect in SOI Circuits.	07 07	
Q.2	(a)	List down the various Basic Issues of SOI Technology? Discussed any two in details.	07	
	(b)	Explain System-on-chip (SOC) techniques. OR	07	
	(b)	Explain the various applications of SOI Devices.	07	
Q.3	(a) (b)	Explain Double Gate (DG) SOI Device What is self heating? How will it effects SOI circuits OR	07 07	
Q.3	(a) (b)	Explain Advance SOI SRAM Explain PD Gate Array for SOI Technology.	07 07	
Q.4	(a) (b)	What is Race Problems in SOI Dynamic Logic Circuits? Explain in detail. Discuses on SOI Single-Stage Folded-Cascode Op Amp. OR	07 07	
Q.4	(a) (b)	Draw and explain the SOI ADC circuits. What is the use of VCO? Explain SOI VCO in detail.	07 07	
Q.5	(a) (b)	What do you mean by Floating body? Explain its effects for SOI circuits. Discuss Dynamic Threshold Voltage MOS (DTMOS). OR	07 07	
Q.5	(a) (b)	With suitable figures explain the steps for SOI fabrication process. What is the difference between Narrow Channel and Shirt Channel? Discus the Effects of Narrow Channel on SOI Devices.	07 07	
