

GUJARAT TECHNOLOGICAL UNIVERSITY
Master of Engineering (VLSI System Design Engineering)
Semester – II

Subject Code: 1724205

Subject Name: Analog and Mixed Signal VLSI Design (Major Elective - III)

Sr. No.	Course Content
1	Introduction
2	Introduction Analog VLSI issues in CMOS technologies,
3	Basic MOS Models, SPICE Models and Frequency dependent parameters, Basic NMOS/CMOS Gain stage, and cascade circuits,
4	Frequency response, stability and Noise Issues in amplifiers,
5	Current sources and voltage references, Differential amplifier, OPAMP and OTA design,
6	Frequency Synthesizers and Phased lock-loop
7	Non-Linear analog blocks: Comparators, Chrged-Pump Circuits and Multipliers,
8	Data convertors, Analog Interconnects, Analog Testing and Layout
9	Mixed Signal issues in CMOS technologies
10	Sample-and-Hold Circuits, Analog To Digital Converters;

Text/References:

1. CMOS: Circuit Design, Layout and Simulation By Jacob Baker, Harry W. Li and David E.Boyce
2. Design of Analog CMOS Integrated circuits- Behzad Razavi
3. Principles of Data conversion Systems-Behzad Razavi
4. Integrated Data Converters-Paul Jespers
5. The Art of Analog Layouts-Hastings
6. Principles of sigma-Delta Conversion-Temes,Norworthy
7. Bosco Leung,VLSI for wirless communication.Pearson Educatuion,2004.
8. CMOS: Circuit Design, Layout and Simulation By Jacob Baker, Harry W. Li and David E.Boyce.