GUJARAT TECHNOLOGICAL UNIVERSITY

M.E

Communication Engineering

Subject Name: **RF Microelectronics**

Sr.No	Course content
1	Introduction to RF and Wireless Technology: Complexity, design and app Choice of Technology. Basic concepts in RF Design: Nonlinearly and Time V inter symbol interference, random processes and Noise.
2	BJT and MOSFET behavior at RF frequencies Modeling of the transistors ar models.
3	Noise performance and limitation of devices, Integrated Parasitic element frequencies and their monolithic implementation.
4	Basic blocks in RF systems and their VLSI implementation : Low noise design in various technologies, Design of Mixers at GHz frequency range Mixers: their working and implementation, Oscillators : Basic topologies V definition of phase noise.
5	Noise-Power trade-off. Resonator less VCO design, Quadrature and single sideband generators, Radio Frequency Synthesizes: PLLS, Various RF sy architectures and frequency dividers, Power Amplifiers design, Libe techniques, Design issues in integrated RF filters.

Reference Books:

1. B.Razavi, RF Microelectronics, Prentice-Hall PTR.
2. T.H.Lee, The Design of CMOS Radio Frequency Integrated Circuits, Cambridge University Press
3. R.Jacob Baker,H.W.Li and D.E.Boyce, CMOS Circuit Design, Lay out and Simulation,Prentice-Hall of India
4. Y.P.Tsividis, Mixed Analog and Digital VLSI Devices and Technology, McGraw Hill
5. B.Razavi, Design of Analog CMOS Integrated Circuits, Tata Mc-Graw Hill.