GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Name: Design of Microwave Circuits (Elective V- Group 3)
Subject Code: 3735303
Semester III

Type of course: ME - Computer Engineering (Wireless And Mobile Computing)

Prerequisite: NA

Rationale: NA

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE (E)	PA (M)	PA (V) ESE	PA (I)	
3	2#	0	4	70	30	30	20	150

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment;

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	The design of communication circuits and systems operating at microwave frequencies.	10	15
2	Topics include antennas, transmission lines, micro strip matching networks, S-parameters, frequency synthesizers, and down converter components such as LNAs, mixers, and micro strip band pass filters.	10	30
3	Projects involve design, simulation with electronic design automation tools, and laboratory measurements	10	25

Reference Books:

1. Pozar D M, Microwave Engineering, John Wiley and Sons
2. Mishra Ravindra, RF and Microwave Communication, John Wiley and Sons
3. Harvey Lehpamer, Microwave Transmission Networks, TMH Publications
4. Collin R E, Foundations for Microwave Engineering, McGrawHill International
5. M. Golio and J. Golio, RF and microwave Technologies:Vol I,II,III,CRC Press
6. K C Gupta and Amarjit Singh, Microwave Integrated Circuits, John Willey and sons Publications.
7. William F. Egan, Practical RF System Design,Wiley Interscience

Course Outcomes:

1. Students would be able to learn design of communication circuits at Microwave Frequencies.
2. Students would be able to design antenna and micro-strip network.
3. Students would be able to design low noise amplifier and mixers.
4. Students would be able to understand and use various RF and Microwave Test and Measurement Tools.
5. Students would be able to use the designed circuits for various applications.