DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE PLAN – PART I			
Name of the programme and specialization	**M Tech- Communication Systems**		
Course Title	**Microwave Integrated Circuits Laboratory**		
Course Code	**EC 607**	**No. of Credits**	**2**
Course Code of Pre-requisite subject(s)			
Session	**July 2021**	**Section (if, applicable)**	
Name of Faculty	**Dr. R Pandeeswari**	**Department**	**ECE**
Email	**rpands@nitt.edu**	**Telephone No.**	**0431 2503318**
Name of Course Coordinator(s) (if, applicable)	**Dr. R Pandeeswari**		
E-mail	**rpands@nitt.edu**	**Telephone No.**	**9952892216**
Course Type	**Laboratory course**		

Syllabus (approved in BoS)
Yes
COURSE OBJECTIVES
To understand the characteristics of MIC components, filter, antenna and simulate the characteristics of microwave antenna
COURSE OUTCOMES (CO)

Course Outcomes	**Aligned Programme Outcomes (PO)**
1. Able to understand and measure the characteristics of MIC Components	**PO1, PO2, PO4, PO6, PO10**
2. Able to understand and measure the characteristics of MIC filters	**PO1, PO2, PO4, PO6, PO10**
3. Able to simulate the MIC antenna and obtain the characteristics	**PO5, PO6, PO10**

COURSE PLAN – PART II
COURSE OVERVIEW

MIC Laboratory intends to provide students a detailed understanding on MIC components, filters, and antenna characteristics.

COURSE TEACHING AND LEARNING ACTIVITIES

S. No.	Week/ Contact Hours	Topic	Mode of Delivery
1	I week	Design of 50 ohm microstripline and measurement of its transmission loss	PPT/PDF/Simulation
2	II Week	Design of 3 dB power divider and measurement of its transmission loss	PPT/PDF/Simulation
3	III week	Design of branch line directional coupler and measurement of its parameters	PPT/PDF/Simulation
4	IV week	Measurement of various parameters of backward wave directional coupler	PPT/PDF/Simulation
5	V week	Design of rectangular patch antenna using CST studio	PPT/PDF/Simulation
6	VI week	Measurement of power division and isolation of rat race ring	PPT/PDF/Simulation
7	VII week	Measurement of transmission loss and return loss of low pass filter	PPT/PDF/Simulation
8	VIII week	Measurement of transmission loss and return loss of bandpass filter	PPT/PDF/Simulation
9	IX week	Measurement of radiation pattern and bandwidth of half wave dipole and yagi-uda antenna	PPT/PDF/Simulation
10	X week	(a). Measurement of dielectric constant using ring resonator (b). Measurement of insertion and isolation loss of 3 port circulator	PPT/PDF/Simulation

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S. No.	Mode of Assessment	Week/ Date	Duration	% Weightage

1	Record Work for 1-5 experiments	To be submitted every next week after completion of experiment		25
2	Record for 6-10 experiments			25
3	Mini Project / Viva voce MCQs			15
4	Mini Project / Viva Voce MCQS written exam			15
5	End semester evaluation		1 ½ hours	30

*** mandatory; refer to guidelines on page 4**

COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)

1. The students through class representative may give their feedback at any time which will be duly addressed.
2. Feedback from the students through MIS and class committee meetings.

COURSE POLICY (preferred mode of correspondence with students, compensation assessment policy to be specified)

CORRESPONDENCE

All the students are advised to come to the class regularly. All the correspondence (schedule of classes/ schedule of assignment/ course material/ any other information regarding this course) will be intimated in the class only.

ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

- **At least 75 % attendance in each course is mandatory.**
- **A maximum of 10 % shall be allowed under On Duty (OD) category.**
- Students with **less than 65 % of attendance** shall be prevented from writing the final assessment and **shall be awarded ' V grade.**

ACADEMIC DISHONESTY & PLAGIARISM

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award

the punishment if the student is found guilty. The report shall be submitted to the Academic office.

The above policy against academic dishonesty shall be applicable for all the programmes.

FOR APPROVAL



Course Faculty	CC- Chairperson	HOD
Dr. R Pandeeswari	Dr. N Gunavathi	