

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPALLI

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE PLAN – PART I			
Name of the programme and specialization	B.Tech. ECE		
Course Title	ANALOG VLSI & EMBEDDED SYSTEM LABORATORY		
Course Code	ECLR14	No. of Credits	2
Course Code of Pre-requisite subject(s)	ECPC21& ECPC23		
Session	July 2022	Section (if, applicable)	A
Name of Faculty	Dr. S. DEIVALAKSHMI	Department	ECE
Official Email	deiva@nitt.edu	Telephone No.	04312503321
Name of Course Coordinator(s) (if, applicable)	-		
Course Type	ELR		
Syllabus (approved in BoS)			
<ol style="list-style-type: none"> 1. Study the characteristics of negative feedback amplifier 2. Design of an instrumentation amplifier 3. Study the characteristics of regenerative feedback System-Schmitt trigger 4. Design of a second order Butterworth band-pass filter for the given higher and lower cut-off frequencies 5. Design of a function Generator-Square, Triangular wave <p>List of Experiments: USING XILINX</p> <ol style="list-style-type: none"> 1. Comparators, parity generators & ALU 2. Flip-Flops, Shift-Registers & Counters Using Cadence 3. Dc transfer characteristics of an Inverter 4. Design, Simulation and Layout of basic digital blocks 5. Mini Project on VLSI Design 			
COURSE OBJECTIVES			
To expose the students to the fundamentals of analog circuits and its applications.			
MAPPING OF COs with POs			

Course Outcomes	Programme Outcomes(PO) (Enter Numbers only)
1. Study the characteristics of negative feedback amplifier	1,2,4,6
2. Design of an instrumentation amplifier	1,2,4,6
3. Study the characteristics of regenerative feedback system-Schmitt trigger	1,2,4,6
4. Design of a second order Butterworth band-pass filter for the given higher and lower cut-off frequencies	1,2,4,6
5. Design of a function generator-Square, Triangular wave	1,2,4,6

COURSE PLAN – PART II

COURSE OVERVIEW

This lab course include experiments related to analog circuits that helps students to design, perform and analyse various applications.

COURSE TEACHING AND LEARNING ACTIVITIES

(Add more rows)

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	1 st	Study the characteristics of negative feedback amplifier	Lab Exercise
2	2 nd	Design of an instrumentation amplifier	Lab Exercise
3	3 rd	Study the characteristics of regenerative feedback system-Schmitt trigger	Lab Exercise
4	4 th	Design of a second order Butterworth band-pass filter for the given higher and lower cut-off frequencies	Lab Exercise
5	5 th	Design of a function generator-Square, Triangular wave	Lab Exercise
6	6 th	Redo class	Lab Exercise

7	7 th	List of Experiments: USING XILINX Comparators, parity generators & ALU	Lab Exercise
8	8 th	Flip-Flops, Shift-Registers & Counters Using Cadence	Lab Exercise
9	9 th	Dc transfer characteristics of an Inverter	Lab Exercise
10	10 th	Design, Simulation and Layout of basic digital blocks	Lab Exercise
11	11 th	Mini Project on VLSI Design	Lab Exercise
12	12 th	Redo class	Lab Exercise
13	13 th	Final lab exam	Lab Exercise

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	ASSESSMENT-I (Continuous evaluation)	Entire course duration		30
2	Assessment II (Lab Preparedness)	Entire course duration		10
3	ASSESSMENT-III (Quiz-written type/Mini Project)	As per academic calendar	1 hour	30
4	ASSESSMENT-IV (Final Assessment-Lab Exam)	As per academic calendar	3 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. Feedback from the students during class committee meeting.
2. Queries through questionnaire.
3. Course Attainment is calculated through Direct tools (Exams)

COURSE POLICY

ASSESSMENT

Assessments I and II are mandatory for the candidate to appear for the Assessment IV

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.

ADDITIONAL INFORMATION, IF ANY

Queries and feedback may also be emailed to the Course Faculty directly at deiva@nitt.edu

FOR APPROVAL


Course Faculty _____


CC- Chairperson _____
(Dr.R.K.Jeyachitra)


HOD _____