



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE PLAN PART I			
Name of the programme and specialization	B.Tech. – Electrical and Electronics Engineering		
Course Title	ELECTRONIC CIRCUITS LABORATORY		
Course Code	EELR12	No. of Credits	02
Course Code of Pre-requisite subject(s)	EEPC14		
Session	January 2019	Section	B
Name of Faculty	Dr. Josephine.R.L	Department	EEE
Official Email	josephinerl@nitt.edu	Telephone No.	9750541213
Name of Course Coordinator(s)	-NA-		
Official E-mail	-NA-	Telephone No.	-NA-
Course Type	<input checked="" type="checkbox"/>	Core course	<input type="checkbox"/> Elective course
<b>Syllabus (approved in BoS)</b>			
<ul style="list-style-type: none"> <li>• Frequency analysis of Common Emitter amplifier.</li> <li>• Measurement of input/output impedance of Common Collector amplifier.</li> <li>• Design and verification of characteristics of RC Oscillators.</li> <li>• Design and characterization of Mono stable multi-vibrator.</li> <li>• Design and characterization of Astable multi-vibrator.</li> <li>• Characteristics of UJT and applications of UJT oscillator.</li> <li>• Frequency analysis of FET amplifier.</li> <li>• Frequency response of series voltage negative feedback amplifier.</li> <li>• Square waveform generation using transistor based schmitt trigger.</li> <li>• Design and characterization of Bistable multi-vibrator.</li> </ul>			
<b>COURSE OBJECTIVES</b>			
To familiarize with			
<ol style="list-style-type: none"> <li>1. The design and construction of amplifier circuits.</li> <li>2. The design and construction of oscillator circuits.</li> <li>3. The design and construction of multi-vibrator circuits.</li> </ol>			



MAPPING OF COs with POs			
Course Outcomes		Programme Outcomes (PO)	
Upon completion of the course, the students will be able to			
1. Design a complete electronic circuit using a top-down approach which starts from specifications.		1,2,3	
2. Design and analyze electronic circuits using BJT and FET.		1,2,3	
3. Design and characterization of electronic circuits using UJT.		1,2,3	
4. Waveform generator circuit design using electronics.		1,2,3	
5. Prepare the technical report and provide solutions to real time problems		2	
COURSE PLAN – PART II			
COURSE OVERVIEW			
This laboratory course will give a hands-on experience to the students of IV semester in the design of amplifiers, oscillators and multi-vibrator circuits and experimental investigation of the same.			
COURSE TEACHING AND LEARNING ACTIVITIES			
S.No.	Week/Contact Hours	Topic	Mode of Delivery
1.	2 <sup>nd</sup> week of January '19 (8 and 11)	Instruction and introduction of the Lab Experiments	PPT
2.	3 <sup>rd</sup> week of January '19 (18 and 22)	Frequency analysis of common emitter amplifier	Practical Experiments
3.	4 <sup>th</sup> week of January '19 (25 and 29)	Frequency analysis and measurement of input/output impedance of common collector amplifier	Practical Experiments
4.	1 <sup>st</sup> week of February '19 (4 and 7)	Frequency analysis of FET amplifier	Practical Experiments
5.	2 <sup>nd</sup> week of February '19 (12 and 15)	Uni Junction Transistor as a Relaxation Oscillator	Practical Experiments
6.	3 <sup>rd</sup> week of February '19 (19 and 22)	<b>Assessment 2</b> – Comprehensive Viva voce	Oral Examination



6.	4 <sup>th</sup> week of February '19 (26 and March 1)	Design and analysis of series voltage negative feedback amplifier.	Practical Experiments
7.	1 <sup>st</sup> week of March '19 (5 and 8)	Design and analysis of RC phase shift oscillator.	Practical Experiments
8.	2 <sup>nd</sup> week of March '19 (12 and 19)	Design and analysis of Wien Bridge oscillator.	Practical Experiments
9.	3 <sup>rd</sup> week of March '19 (22 and 26)	Design and analysis of Astable Multi-vibrator	Practical Experiments
10.	4 <sup>th</sup> week of March '19 (28 and April 2)	Design and analysis of Mono stable Multi-vibrator	Practical Experiments
11.	1 <sup>st</sup> week of April '19 (5 and 9)	<b>Assessment 3</b> – Comprehensive Viva voce	Oral Examination
12.	2 <sup>nd</sup> and 3 <sup>rd</sup> week of April '19 (12 and 16)	Compensation Lab	Practical Experiments
13.	4 <sup>th</sup> week of April '19 Between 23.04.2019 and 26.04.2019	<b>Assessment 4</b>	Practical Experiments

**COURSE ASSESSMENT METHODS** (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1.	Assessment - 1 Design calculation, Experimentation, Graph and Results		During regular lab session	50
2.	Assessment - 2 Comprehensive viva voce Cycle 1		3 <sup>rd</sup> week of February '19	10
3.	Assessment - 3 Comprehensive viva voce Cycle 2		1 <sup>st</sup> week and 2 <sup>nd</sup> week of April '19	10
	Compensation <i>Assessment</i>		2 <sup>nd</sup> and 3 <sup>rd</sup> week of April '19 (12 and 16)	



4.	Assessment - 4* End Semester (Practical Examination)	4 <sup>th</sup> week of April '19	120 minutes	30
<b>COURSE EXIT SURVEY</b>				
<ul style="list-style-type: none"><li>• Feedback from the students during class committee meetings</li><li>• Anonymous feedback through questionnaire (Mid of the semester and End of the semester) End Semester feedback on course outcome.</li></ul>				
<b>COURSE POLICY (including compensation assessment to be specified)</b>				
<ol style="list-style-type: none"><li>1. All students are advised to check their NITT webmail regularly. All the correspondence (schedule of classes/schedule of assessment/ lab material/ any other information regarding course) will be done through their webmail only.</li><li>2. The compensation assessment would be conducted at the end of II cycle of experiments.</li></ol>				
<b>ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)</b>				
<ul style="list-style-type: none"><li>➤ At least 75% attendance in each course is mandatory.</li><li>➤ A maximum of 10% shall be allowed under On Duty (OD) category.</li><li>➤ Students with less than 65% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade.</li></ul>				
<b>ACADEMIC DISHONESTY &amp; PLAGIARISM</b>				
<ul style="list-style-type: none"><li>➤ Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.</li><li>➤ Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.</li><li>➤ 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.</li><li>➤ The above policy against academic dishonesty shall be applicable for all the programme.</li></ul>				
<b>ADDITIONAL INFORMATION, IF ANY</b>				
<ul style="list-style-type: none"><li>• The faculty is available for consultation at times as per the intimation given by the faculty.</li><li>• Queries may also be emailed to the faculty directly to <a href="mailto:josephinerl@nitt.edu">josephinerl@nitt.edu</a></li></ul>				
<b>FOR APPROVAL</b>				



Course Faculty Jayaraman

CC- Chairperson Jeh MP  
09/11/19

HOD S. Sridhar

**Guidelines**

- The number of assessments for any theory course shall range from 4 to 6.
- Every theory course shall have a final assessment on the entire syllabus with at least 30% weightage.
- One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered.
- The passing minimum shall be as per the regulations.

B.Tech. Admitted in				P.G.
2018	2017	2016	2015	
35% or (Class average/2) whichever is greater.		(Peak/3) or (Class Average/2) whichever is lower		40%

- Attendance policy and the policy on academic dishonesty & plagiarism by students are uniform for all the courses.
- Absolute grading policy shall be incorporated if the number of students per course is less than 10.
- Necessary care shall be taken to ensure that the course plan is reasonable and is objective.