NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

This course outline template acts as a guide for writing your course outline. As every course is different, please feel free to amend the template/ format to suit your requirements.

| COURSE OUTLINE TEMPLATE | | | |
|---|---|---|---|
| Course Title | CIRCUITS AND DEVICES LABORATORY | | |
| Course Code | EELR10 | No. of Credits | 2 |
| Department | EEE | Faculty | Dr. S. Arul Daniel |
| Pre-requisites Course Code | Rudimentary knowledge of electronic devices and R, L, C circuit elements. | | |
| Course Coordinator(s) (if, applicable) | | | |
| Other Course Teacher(s)/Tutor(s) E-mail | | Telephone No. | |
| Course Type | Core course | | |

**COURSE OVERVIEW**

To understand and analysis the theorems of circuit theory and characteristics of devices.

**COURSE OBJECTIVES**

1. Understand and analyze series and parallel circuits and measurement of single and three phase power.
2. Understand and analyze different applications of transients and characteristics of transistor.

**COURSE OUTCOMES (CO)**

| Course Outcomes | Aligned Programme Outcomes (PO) |
|---|---|
| 1. Verify the network theorems and operation of typical electrical and electronic circuits. | 1,2 |
| 2. Choose appropriate equipment for measuring electrical quantities and verify the same for different circuits. | 1,2,3 |

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|---|---|---|---|
| COURSE TEACHING AND LEARNING ACTIVITIES | | | |
| S.No. | Week | Topic | Mode of Delivery |
| 1. | | Characteristics of CB and CE configuration of BJT by simulation using PSPICE or LTSPICE | |
| 2. | | Characteristics of MOSFET by simulation using PSPICE or LTSPICE | |
| 3. | | Verification of KCL and KVL theorems by simulation using PSPICE and hardware | |
| 4. | | Verification of superposition theorem by simulation using PSPICE and hardware | |
| 5. | | Study of transients characteristics of R-L series DC circuit by simulation and hardware | |
| 6. | | Study of transients characteristics of R-C series DC circuit by simulation and hardware | |
| 7. | | Study of transients characteristics of R-L-C series DC circuit by simulation and hardware | |
| 8. | | Mini Project | |

| COURSE ASSESSMENT METHODS | | | | |
|---|---|---|---|---|
| S.No. | Mode of Assessment | Week/Date | Duration | % Weightage |
| 1. | Preparation, observation, results, viva for each exercise | | | 70% |
| 2. | Mini Project | | | 30% |

| ESSENTIAL READINGS : Textbooks, reference books Website addresses, journals, etc |
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| COURSE EXIT SURVEY (mention the ways in which the feedback about the course is assessed and indicate the attainment also) |
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| **COURSE POLICY (including plagiarism, academic honesty, attendance, etc.)** |
| **Preparation of background literature before entering the lab is essential.**<br><br>**No provision for repeating the experiments is provided, for unauthorized absentees.** |
| **ADDITIONAL COURSE INFORMATION** |
| **eg.:** The Course Coordinator is available for consultation at times that are displayed on the coordinator's office notice board. Queries may also be emailed to the Course Coordinator directly at ---------- |
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| **Course Faculty** Samuel **CC-Chairperson** 8/07/16 **HOD** S. Sudha I/c |