# NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI
## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

| COURSE PLAN PART- I | | | |
|---|---|---|---|
| **Name of the program and specialization** | **B.Tech. EEE** | | |
| **Course Title** | **Introduction to Electrical and Electronics Engineering.** | | |
| **Course Code** | **EEIR15** | **No. of Credits** | **02** |
| **Course Code of Pre-requisite subject(s)** | **NIL** | | |
| **Session** | **January 2023** | **Section** | **A** |
| **Name of Faculty** | **Dr. Josephine R.L** | **Department** | **EEE** |
| **Email** | josephinerl@nitt.edu | **Telephone No.** | **0431-2504085** |
| **Name of Course Coordinator(s) (**if, applicable**)** | **N A** | | |
| **Course type** | **General Institute Requirement (Branch Specific Course)** | | |

**SYLLABUS (approved in BoS)**

**Course Contents:**

History, major inventions, scope, significance, and job opportunities in electrical and electronics engineering, brief overview of various energy resources.

Basics of energy conversion, Power apparatus used in power generation, transmission and distribution, Power apparatus used in various industries.

Basic ideas about utility supply, electrical tariff, energy audit and importance of energy saving.

Introduction to different types of electrical circuits, house wiring, electronic circuits for signal processing, specifications of electronic components.

Brief overview of curriculum, laboratories and various software packages, electronic testing and measuring equipment.

**COURSE OBJECTIVES**

This course facilitates the students to get a comprehensive exposure to electrical and electronics engineering.

**MAPPING OF COs with Pos**

| **Course Outcomes** | **Program Outcomes (PO) (**Enter Numbers only**)** |
|---|---|
| Upon completion of the course, the students shall develop an insightful knowledge on various fundamental elements of electrical and electronics engineering. | **1,2,4,6,7,8,9,10,11,12.** |

| COURSE PLAN – PART II | | | |
|---|---|---|---|
| **COURSE TEACHING AND LEARNING ACTIVITIES** | | | |
| **S.No.** | **Week/Contact Hours** | **Topic** | **Mode of Delivery** |
| 1 | Week 1 (2 Lectures) 20 -27 March | Introduction to the course, History, | **Chalk and Talk** |
| 2 | Week 2 (2 Lectures) 27-31 March | Major inventions, scope, significance, and job opportunities in electrical and electronics engineering, | **Chalk and Talk** |
| 3 | Week 3 (2 Lectures) 3- 7 April | Brief overview of various energy resources | **Chalk and Talk** |
| 4 | Week 4 (2 Lectures) 10-14 April | Basics of energy conversion, Power apparatus used in power generation, transmission, and distribution. | **Chalk and Talk** |
| 5 | Week 5(2 Lectures) 17-21 April | Power apparatus used in various industries. | **Chalk and Talk** |
| 6 | Week 6 (2 Lectures) 24-28 April | Basic ideas about utility supply electrical tariff, energy audit | **Chalk and Talk** |
| 7 | Week 7(2 Lectures) 1 - 5 May | Importance of energy saving. | **Chalk and Talk** |
| 8 | Week 8(2 Lectures) 8- 12 May | Importance of energy saving. | **Chalk and Talk** |
| 9 | Week 9(3 Lectures) 15-19 May | Introduction to different types of electrical circuits, house wiring | **Chalk and Talk** |

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|---|---|---|---|
| 10 | Week 10(2 Lectures) 22-26 May | house wiring (contd.) | **Chalk and Talk** |
| 11 | Week 11(2 Lectures) 29 may-02 June | Electronic circuits for signal processing, specifications of electronic components. | **Chalk and Talk** |
| 12 | Week 12(2 Lectures) 05 -09 June | Brief overview of curriculum, laboratories and various software packages | **Chalk and Talk** |
| 13 | Week 13(2 Lectures) 12-16 June | Electronic testing and measuring equipment. | **Chalk and Talk** |
| 14 | Week 14(2 Lectures) 19-23 June | Electronic testing and measuring equipment | **Chalk and Talk** |

**COURSE ASSESSMENT METHODS**

| S.No | Mode of Assessment | Week/Date | Duration | % Weightage |
|---|---|---|---|---|
| 1. | Assessment-1 (Module 1&2) | 24- 26 April | 90 minutes | **25** |
| 2. | Assessment-2 (Module 3&4) | 22-24 May | 90 minutes | **25** |
| 3. | Continuous Assessment | Assignments/Objective and Subjective type tests/Quiz<br>During regular class hours | | **20** |
| CPA | Compensation Assessment (Module 1,2,3,4) | 19-23 June | 90 minutes | **25** |
| 4. | Assessment-4 Final Assessment (All Modules) | End semester Exam | 3 hours | **30** |

**Note:**

1. Attending all the assessments (i.e., Assessment 1 to 4) are MANDATORY for every student.
2. If any student is not able to attend Assessment-1 / Assessment-2 due to genuine reason, he/she is permitted to attend only one Compensation Assessment (CPA) with

25 marks. Appropriate weightage will be assigned according to the assessment missed by the student.

3. At any case, CPA will not be considered as an improvement test.

Grading the students

1. Grading will be based on the clusters (range) of the total marks (all the assessments i.e., Assessment 1 to 4, put together for each student) scored. For grading, Gap theory or Normalized curve method will be used to decide the clusters (range) of the total marks.
2. The passing minimum shall be as per the Office of the Dean (Academic) instructions. Hence, every student is expected to score the minimum mark to pass the course as prescribed by the Office of the Dean (Academic). Otherwise, the student would be declared fail and 'F' grade will be awarded.

**ESSENTIAL READINGS: Textbooks, reference books Website addresses, journals, etc.**

1. Clayton Paul, Syed A Nasar and Louis Unnewehr, 'Introduction to Electrical Engineering', 2ndEdition, McGraw-Hill, 1992.

2. Kothari D.P. & Nagrath I.J., 'Basic Electrical Engineering', 2nd Edition, Tata McGraw-Hill,2001.

3. P.S. Dhogal, 'Basic Electrical Engineering – Vol. I& II', 42nd Reprint, McGraw-Hill, 2012.

**COURSE EXIT SURVEY**

- Feedback from the students during class committee meetings
- Anonymous feedback through questionnaire

**COURSE POLICY**

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 programs.

**FOR APPROVAL**

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|---|---|---|
| 21/3/2023 | S. Kayalvizhi 21/3/2023 | |
| **Course Faculty** | **Chairperson** | **HOD / EEE** 21/03/23 |
| (Dr. Josephine R.L) | S. KAYALVIZHI | |