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| --- | --- | --- |
| **Course Title** | **EDA WORKSHOP** | |
| **Course Code** | **ECW 205B** | |
| **Credits** | Lab:3 (TOTAL:1.5) | |
| **Course Coordinator /Instructor(s):** | CC: MEENAKSHI GUPTA | |
| **Course type:** | Lab (0-0-3) | |
| **Core or Elective:** | Core | |
| **Term Offered:** | Odd Semester (III sem) | |
| **Course Schedule:** | **Lab:**  3 hr/week | |
| **Course Assessment:** | **Formal Assessment:**  **Theory:** 2 midterm and 1 end semester test | **Informal Assessment**  **Practical :** Experiments performance, project, viva voice |
| **E Mail ID:** | meenakshigupta@mru.edu.in | |
| **Objectives** | Student will be able to solve problem in ORCAD. | |
| **Learning Outcomes** | After completion of program Students will be able to:  CO1: Design the circuits in orcad.  CO2: Simulate the circuits.  CO3: Analyze the results.  CO4: Implement the circuit & Test it. | |

**Topic Layout:**

|  |  |  |
| --- | --- | --- |
| ***S.No*** | ***Topics*** | ***lECTURES*** |
| 1 | Introduction to PCB Design Software, Editing and Routing. | 3 |
| 2 | Designing of low pass, high pass, all pass & band pass filters for a given cut off frequency | 6 |
| 3 | Designing of half-wave rectifier with effects of variable capacitance | 6 |
| 4 | Designing of full-wave rectifier with effects of variable capacitance. | 6 |
| 5 | Designing of 5V power supply | 6 |
| 6 | Designing of Half adder and Full Adder using gates | 3 |
| 7 | Introduction to Screen Printing, Component Mounting, Soldering and Drilling. | 3 |
| 8 | . Project using design software | 9 |
| 9 | . Project using design software |
|  | **TOTAL** | **42** |

**Lesson Plan:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Week** | **Lect no** | **Laboratory** | **Course Outcomes** | **Blooms Taxonomy Level** |
| **1** | **1** | Introduction to PCB Design Software, Editing and Routing. | **CO1** | **BT3** |
| **2** | Designing of low pass, high pass, all pass & band pass filters for a given cut off frequency |
| **2** | **3** | Designing of low pass, high pass, all pass & band pass filters for a given cut off frequency | CO1, CO2 | **BT3** |
| **4** | Designing of half-wave rectifier with effects of variable capacitance |
| **3** | **5** | Designing of half-wave rectifier with effects of variable capacitance | CO1, CO2, CO3 | **BT3. BT4** |
| **6** | Designing of full-wave rectifier with effects of variable capacitance. |
| **4** | **7** | Designing of 5V power supply | CO1, CO2, CO3 | **BT3. BT4** |
| **8** | Designing of 5V power supply |
| **5** | **9** | Designing of 5V power supply | CO3, CO4 | **BT3. BT4** |
| **10** | Designing of Half adder and Full Adder using gates |
| **6** | **11** | Introduction to Screen Printing, Component Mounting, Soldering and Drilling. | CO1, CO2, CO3 | **BT3. BT4**  **BT3. BT4** |
| **12** | Project using design software |
| **7** | **13** | Project using design software | CO3, CO4 | **BT3. BT4**  **BT3. BT4** |
| **14** | Project using design software |

**Teaching Methodologies:**

1. Students will work individually on different kind of problems.
2. Students can work in groups in designing Circuits.
3. Home assignments will help the learners in understanding.

**Evaluation scheme:**

|  |  |  |
| --- | --- | --- |
|  | **Lab** | |
|  | **Evaluation criteria (Formal)** | **Marks** |
|  | Test 1 (PT1) | 10 |
|  | Test 2 (PT2) | 10 |
|  | Test 3 (PT3) | 20 |
|  | **Evaluation criteria (Informal)** | **Marks** |
|  | Lab Performance  Lab Record | 10 |
|  |
|  |
|  |  | **50** |

**Mapping of Course Outcomes and Program Outcomes**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Objective** | **Programme Outcomes** | | | | | | | | | | |
| **a** | **b** | **c** | **d** | **e** | **f** | **g** | **h** | **i** | **J** | **K** |
| **Computer & Information System** |  | **√** | **√** | **√** | **√** |  | **√** |  | **√** | **√** | **√** |