

EE704PC: ELECTRICAL WORKSHOP**B.Tech. IV Year I Sem.**

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Prerequisite: Basics of Electrical Engineering**Course Objectives:**

- To enhance practical knowledge related to different subjects
- To develop hardware skills such as soldering, winding etc.
- To develop debugging skills.
- To increase ability for analysis and testing of circuits.
- To give an exposure to market survey for available components
- To develop an ability for proper documentation of experimentation.
- To enhance employability of a student.
- To prepare students for working on different hardware projects.

Course Outcomes: After completion of course, student will be able to

- Get practical knowledge related to electrical
- Fabricate basic electrical circuit elements/networks
- Trouble shoot the electrical circuits
- Design filter circuit for application
- Get hardware skills such as soldering, winding etc.
- Get debugging skills.

Group A:

1. Design and fabrication of reactor/ electromagnet for different inductance values.
2. Design and fabrication of single phase Induction/three phase motor stator.
3. Start delta starter wiring for automatic and manual operation.
4. Wiring of distribution box with MCB, ELCB, RCCB and MCCB.
5. Wiring of 40 W tube, T-5, LED, Metal Halide lamps and available latest luminaries.
6. Assembly of various types of contactors with wiring.
7. Assembly of DOL and 3 point starter with NVC connections and overload operation.

Group B: This group consists of electronic circuits which must be assembled and tested on general purpose PCB or bread boards.

1. Design and development of 5 V regulated power supply.
2. Design and development of precision rectifier.
3. Design and development of first order/ second order low pass/high pass filters with an application.
4. Microcontroller Interface circuit for temperature/level/speed/current/voltage measurement.
5. Peak detector using op-amplifiers.
6. Zero crossing detector using op-amplifiers.