

Syllabi & evaluation norms for Part-III courses

Co-ordinating Department: Department of Physics

SEC III – VALUE ADDED COURSE

ANY SEMESTER BETWEEN II to V

16UPHVA03	Circuit Designing and Fabrication	40 Hrs	01 Credits
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Objectives:

1. To aware the students about circuit types, tracing and fabrication of various circuits of rectifiers, regulators, filters, amplifiers etc.
2. To develop skill among the students for the designing and preparation of such circuits.
3. To understand use of soldering iron, printed circuit board (PCB) and bread board for the different circuits.

Unit 1 : DESINGING AND FABRICATION OF RECTIFIERS (10 hrs)

- Introduction to rectifiers
- Types of rectifiers
- Half wave rectifiers, Full wave rectifiers bridge rectifiers
- Designing of different circuits for rectifier fabrication
- Tracing of different rectifier circuits

Unit 2 : DESINGING AND FABRICATION OF AMPLFIERS (10 hrs)

- Introduction to amplifiers
- Types of amplifiers
- Single stage transistor amplifier, Multistage transistor amplifier
- Transistor power amplifier
- Designing of different amplifying circuits
- Fabrication and tracing of different amplifying circuits

Unit 3 : DESINGING AND FABRICATION OF FILTERS (10 hrs)

- Introduction to filters
- Types of filters
- RL filters, RC filters, LCR filters, Pie filters
- Designing of different filters circuits
- Fabrication and tracing of different fitters circuits

Unit 4 : DESIGNING AND FABRICATION OF VOLTAGE REGULATORS

(10 hrs)

- Introduction to voltage regulators
- Types of voltage regulators
- Zener diode voltage regulator, Transistor series voltage regulator
- Transistor shunt voltage regulator
- Designing of different voltage regulator circuits
- Fabrication and tracing of different voltage regulator circuits

Reference Books:

1. V K Mehta, Principles of Electronics, S Chand Publication.
2. John D Ryder, Electronic fundamentals and applications, Prentice Hall publication.
3. B L Theraja, Basic Electronics, S Chand publication.