Veer Narmad South Gujarat University, Surat

Syllabus

For

B. Sc. Semester III

Effective from the Academic Year 2024-25

Paper: SEC-PH (PRA) – 302 (2 Credits)

Course Title: Basic Electronic Circuit Designing

Total Hrs: 60 (Practical)

The experiments are to be performed in "To Design, Build and Test" mode.

Sr. No.	Title
1	Kirchhoff's Voltage Law.
2	Kirchhoff's Current Law.
3	Superposition theorem.
4	Thevenin's theorem.
5	Norton's theorem.
6	PN junction diode (forward and reversed bias).
7	Voltage regulator using Zener diode.
8	Half-wave and full-wave rectifiers with L and π filters.
9	Bridge rectifier with L and π filters.
10	Basic logic gates and verify their truth tables.
11	Universal gates and verify their truth tables.
12	Ex-OR Gate and verify its truth table.
13	Half adder and full adder (using logic gates).
14	Half subtractor and full subtractor (using logic gates).
15	Transistor as a switch.

Note:

1. The students will have to design, build and test these circuits on either a PCB or a breadboard.
2. The duration of each experiment is of 4 hours (2 hours for designing and 2 hours for testing).
3. There should not be more than 10 students per batch as per NEP 2020 guidelines.
4. In the external exam, a student will have to perform one experiment of 4 hours (2 hours for designing and 2 hours for testing) duration.
5. There should be two examiners per batch in the external examination.
6. There should not be more than 10 students per examiner per session in the external examination.