



Dr. V.S.KRISHNA GOVERNMENT DEGREE AND PG COLLEGE
(An Autonomous Institution Affiliated to Andhra University
Reaccredited by NAAC with A Grade (3rd Cycle)
District Resource Centre and Centre for Research Studies
Maddilapalem, Visakhapatnam 530013, Andhra Pradesh



Programme: B.Sc. Honours in Electronics (Major)

w.e.f. AY 2023-24

**SEMESTER-II COURSE CODE 23ELEM21: FUNDAMENTALS OF
ELECTRICITY AND ELECTRONICS**

Theory

Credits: 3

3 hrs/week

Learning outcomes:

On Completion of the course, the students will be able to		Knowledge level (Bloom's Taxonomy)
CO 1	Apply concepts of electric network topology, nodes, branches, loops to solve circuit problems including the use of computer simulation	Level 3
CO 2	Apply time and frequency concepts of analysis	Level 4
CO 3	Synthesize the network using passive elements	Level 6
CO 4	Know about amplifier circuits and oscillator circuits their design and use in electronics	Levels 1 and 3
CO 5	Design and construction of a power supply	Level 6



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Programme: B.Sc. Honours in Electronics (Major)
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**SEMESTER-II COURSE CODE 23ELEM22: CIRCUIT THEORY AND
ELECTRONIC DEVICES**

Theory Credits: 3 3
hrs/week

Objectives

The students will learn:

- 1) basics of electrostatics, Gauss theorem and its applications, concept of a capacitor, various types of capacitors and dielectric constant, magnetic effects of current, cells and the measuring instruments like ammeter and voltmeter,
- 2) basics of p-n junction, rectifying action of a diode, regulated power supplies and wave shaping circuits, and
- 3) transistor and its three modes of operation, h-parameter model of a transistor and the frequency response of an amplifier.

Learning outcomes:

On Completion of the course, the students will be able to		Knowledge level (Bloom's Taxonomy)
CO 1	Apply concepts of electric network topology, nodes, branches, loops to solve circuit problems including the use of computer simulation	Level 3 (Applying)
CO 2	Apply time and frequency concepts of analysis.	Level 4 (Analysing)
CO 3	Synthesize the network using passive elements	Level 6 (Creation)
CO 4	Know about amplifier circuits, switching circuits and oscillator circuits their design and use in electronics	Level 1 (Knowledge) Level 3 (Applying)
CO 5	Design and construction of a power supply	Level 6 (Creation)