



Course Outlines

Course Details:

Course Code : CSE 425 Credit hours: 3.0
 Course Title : Electrical & Electronic Devices
 Program : CSE / CSIT
 Semester : Fall- 2016
 Course Teacher : Anamika Dey
 Lecturer, Dept. of CSE

Course Assessment:

The assessment components for evaluation of students are as follows:

Item/Activity	Marks (%)
Work Sheet (including class attendance and class tests)	25%
Assignment/ Presentation (2)	10%
Mid-Term Test	25%
Final Examination	40%
Total	100%

Course Contents:

Lectures	Contents (Each lecture will be 1.5 hours duration)
Lecture-1	Basic DC Elements, Series and Parallel Networks
Lecture-2	Ohm's law and Kirchhoff's law
Lecture -3	Semiconductor Materials: p and n type materials
Lecture -4	Semiconductor Diode : Doping, Formation of Diode
Lecture -5	Semiconductor Diode : Majority and Minority Carriers and Their Impacts
	Assignment/Presentation
Lecture -6	Semiconductor Diode : Different Biasing techniques-Forward, Reverse, No bias
Lecture -7	Diode Characteristics: Half Wave Rectification using diodes
Lecture -8	Diode Characteristics: Full Wave Rectification using diodes
Lecture -9	Diode Application: Clippers Circuit using ideal diode
	Class Test
Lecture -10	Diode Application: Clampers Circuit using ideal diode
Lecture -11	Introduction to Operational Amplifier
Lecture -12	Types of Op-amp: Inverting Amplifier & Non Inverting Amplifier
	Class Test
	Mid-Term

Lecture -13	Op-Amp Application: Adder, Subtractor, Multiplier
Lecture -14	Op-Amp Application: Integrator, Differentiator,
Lecture -15	Multilevel Amplifier & its applications
Lecture -16	555 Timer & 555 Timer Applications
	Assignment/Presentation
Lecture -17	DC Generator: Principle, Structure, Characteristics
Lecture -18	DC Generator: Types of DC Generator, Series Booster
	Class Test
Lecture -19	Parallel Combinations of DC Generators and its applications
Lecture -20	DC Motor: Principle, Structure, Characteristics
Lecture -21	DC Motor: Types of DC Motor & Universal Motors
Lecture -22	Three Phase Circuits: Introduction, Phase Sequence, Y- Δ Conversion
Lecture -23	Three Phase Circuits: Three phase power calculations, 2 Wattmeter method
	Class Test
Lecture -24	Overview
	Final Examination

Textbooks & References:	<ol style="list-style-type: none"> 1. 'Electronic Circuit & Devices' by R. Boylestad & L. Nashelsky. 2. 'Op-Amp and Linear Integrated Circuits' by Ramakant A. Gayakyad. 3. 'Electrical Technology Vol. iv' by A. K. Theraza & B. L. Theraza.
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