

CHIRALA ENGINEERING COLLEGE

A awarded 'A' Grade by APSCHE , ISO 9001-2008 certified Institute
(Approved by AICTE and Affiliated to JNTUK - Kakinada)
Chirala, Prakasam District , Andhra Pradesh, India. Pin – 523157

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CIRCULAR

Date: 04-11-22

ORIGINATOR	HOD ECE
CIRCULATED TO	IV B.Tech – I Sem

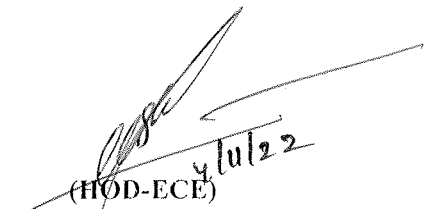
Sub: Add On Course – 'Research Methodology' – B. Tech IV year Students from 07-11-2022 to 12-11-2022.

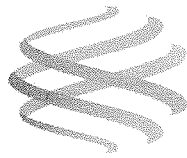
Department of Electronics and Communication Engineering offers a Add on Course for all B.Tech III & IV year students on **Research Methodology** from 07-11-2022 to 12-11-2022. All students may register their names in the department of ECE.

Copy to:

- Class Rooms
- Notice Board
- Office
- Class In-charge




(HOD-ECE)
4/11/22
Head of the Department
Department of E.C.E.
CHIRALA ENGINEERING COLLEGE
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CIRCULAR

Date: 17-08-2022

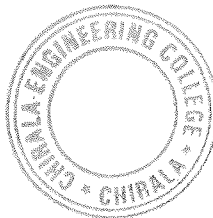
ORIGINATOR	HOD ECE
CIRCULATED TO	III B.Tech – I Sem

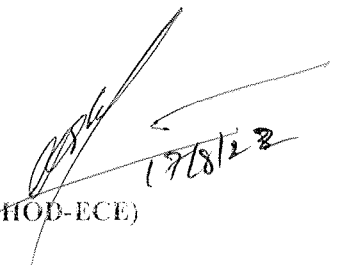
Sub: Add On Course – 'Electronics equipment integration and prototype building– B. Tech III year Students from 21-08-2022 to 26-08-2022.

Department of Electronics and Communication Engineering offers a Add on Course for all B.Tech III on **Electronics equipment integration and prototype building** from 21-08-2022 to 26-08-2022. All students may register their names in the department of ECE.

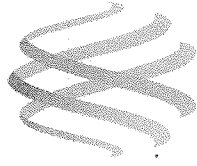
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

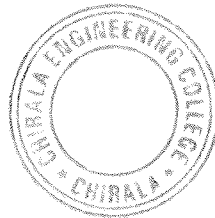
CIRCULAR

Date: 11-02-22

ORIGINATOR	HOD ECE
CIRCULATED TO	II B.Tech – I Sem

Sub: Add On Course – 'PCB DESIGN' – B. Tech II year Students from 15-02-2022 to 22-02-2022.

Department of Electronics and Communication Engineering offers a Add on Course for all B.Tech II year students on **PCB DESIGN** from 15-02-2022 to 22-02-2022. All students may register their names in the department of ECE.



R. Srinivas Reddy
(HOD-ECE)

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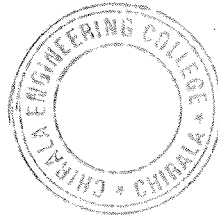
CIRCULAR

Date:18-11-21

ORIGINATOR	HOD ECE
CIRCULATED TO	II & III B.Tech – II Sem

Sub: Add On Course – 'FUZZY LOGIC'– B. Tech II & III year Students from 22-11-2021 to 27-11-2021.

Department of Electronics and Communication Engineering offers a Add on Course for all B.Tech II & III year students on **FUZZY LOGIC** from 22-11-2021 to 27-11-2021.. Those who are interested may register their names in the department of ECE.

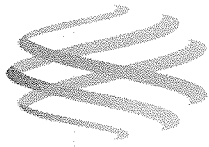



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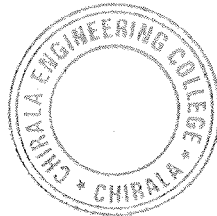
CIRCULAR

Date: 12-11-20

ORIGINATOR	HOD ECE
CIRCULATED TO	III B.Tech – I Sem

Sub: Add On Course – 'IPR & P- B. Tech III year Students from 16-11-2020 to 21-11-2020

Department of Electronics and Communication Engineering offers a Add on Course for all B.Tech III year students on **IPR & P** from **16-11-2020 to 21-11-2020**. All students may register their names in the department of ECE.



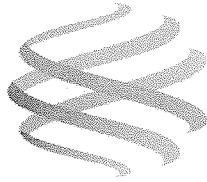
Dr. RA Isabel
(HOD-ECE)

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CIRCULAR

Date: 07-02-20

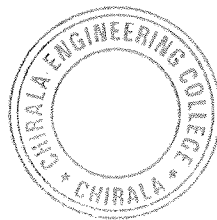
ORIGINATOR	HOD ECE
CIRCULATED TO	IV B.Tech – II Sem

Sub: Add On Course – 'SEMICONDUCTOR DEVICE MODELLING & SIMULATION- B. Tech IV year Students from 10-02-2020 to 15-02-2020.

Department of Electronics and Communication Engineering offers a Add on Course for all B.Tech IV year students on SEMICONDUCTOR DEVICE MODELLING & SIMULATION from 10-02-2020 to 15-02-2020. All students may register their names in the department of ECE.

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Dr. R. A. Sabel
(HOD-ECE)

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Department of Electronics & Communication Engineering

CIRCULAR

6th February, 2020

ORIGINATOR	HOD ECE
CIRCULATED TO	III B.Tech – II Semester

**Sub: Add-on Program – INDUSTRIAL ELECTRONICS – III year
B.Tech ECE Students from 10-02-2020 to 15-02-2020**

Department of Electronics And Communication Engineering offers **Add-on Program** for all B.Tech III year students on **INDUSTRIAL ELECTRONICS**.

Those who are interested may register their names in the department of ECE.


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Department of Electronics & Communication Engineering

CIRCULAR

18th July, 2019

ORIGINATOR	HOD ECE
CIRCULATED TO	IV B.Tech – I Semester

**Sub: Add-On Program on – TRANSDUCERS –IV year B.Tech ECE
Students from 22-07-2019 to 27-07-2019**

Department of Electronics And Communication Engineering offers an Add-On Program for B.Tech IV Year students on **TRANSDUCERS**. Those who are interested may register their names in the department of ECE.

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Department of Electronics & Communication Engineering

CIRCULAR

4th January, 2019

ORIGINATOR	HOD ECE
CIRCULATED TO	III & IV B.Tech – II Semester

Sub: Add-On Program on – REMOTE SENSING – III & IV year B.Tech ECE Students from 07-01-2019 to 12-01-2019

Department of Electronics And Communication Engineering offers an Add-On Program for all B.Tech III & IV year students on **REMOTE SENSING**. Those who are interested may register their names in the department of ECE.

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Department of Electronics & Communication Engineering

CIRCULAR

11th July, 2018

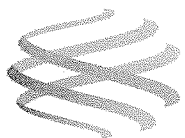
ORIGINATOR	HOD ECE
CIRCULATED TO	IV B.Tech – I Semester

**Sub: add-On Program on – BASIC TOOLS OF MICROWAVE –IV year
B.Tech ECE Students from 16-07-2018 to 21-07-2018**

Department of Electronics And Communication Engineering offers an Add-On Program for B.Tech IV year students on **BASIC TOOLS OF MICROWAVE**. Those who are interested may register their names in the department of ECE.

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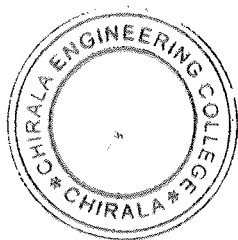
Technical Add On Course

On

Research Methodology (2022-2023)

Time Schedule and Syllabus Coverage

S.No	Date	9:00 AM to 12:00 Noon Topic Covered)	1:30 PM to 4:00 PM (Topic Covered)
1	07-11-2022	Introduction, Meaning of Research, Objectives of Research, Types of Research, Research Approaches, Significance of Research,	Defining the Research Problem: Research Problem, Selecting the Problem, Necessity of Defining the Problem, Technique Involved in Defining a Problem. An Illustration
2	08-11-2022	Improving research methodology, Broadening knowledge base in research area, Enabling contextual findings, searching the existing literature, reviewing the selected literature	Developing a theoretical framework, Developing a conceptual framework, Writing about the literature reviewed.
3	09-11-2022	Meaning of Research Design, Need for Research Design, Features of a Good Design, Important Concepts Relating to Research Design, Different Research	Design of Sampling: Introduction, Sample Design, Sampling and Non-sampling Errors, Sample Survey versus Census Survey
4	10-11-2022	Qualitative and Quantitative Data, Classifications of Measurement Scales, Goodness of Measurement Scales	Introduction, Experimental and Surveys, Collection of Primary Data, Collection of Secondary Data,
5	11-11-2022	Testing of Hypotheses: Hypothesis, Basic Concepts Concerning Testing of Hypotheses, Testing of Hypothesis, Test Statistics and Critical Region, Critical Value and Decision Rule, Procedure for Hypothesis Testing,	Proportion, Variance, for Difference of Two Mean, for Difference of Two Proportions, for Difference of Two Variances, P-Value approach, Power of Test, Limitations of the Tests of Hypothesis.
6	12-11-2022	Test of Difference of more than Two Proportions, Test of Independence of Attributes,	Test of Goodness of Fit, Cautions in Using Chi Square Tests



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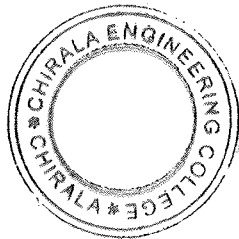
Technical Add On Course

On

Electronics equipment integration and prototype building (2022-2023)

Time Schedule and Syllabus Coverage

S.No	Date	9:00 AM to 12:00 Noon (Topic Covered)	1:30 PM to 4:00 PM (Topic Covered)
1	21-08-22	Introduction to electronics products examples from real life: Parts to system common Simulation of flat prismatic parts	common flat parts enclosures real life parts to scale on a graph
2	22-08-22	early First steps top down, outside to internals using a print and fabrication video	details of displays and keys improvement on marking and skill
3	23-08-22	Integrating sub systems into large systems Mass production in sheet metal Prototyping of user	Recapitalizing a sub system Off the shelf enclosures and making a user interface
4	24-08-22	Small systems looking around for concepts and integration representation on paper example features of surfaces and solids	simple and curved surfaces describing inclined surfaces
5	25-08-22	Drafting and design basics of engineering Drawing introduction to sizing and fits	practical mechanical assemblies analogous Mechanical - Electronics detailing Solid modeling
6	26-08-22	Use of CAD drawing and detailing Importance of dimensioning ease of editing redesign Dimensioning of electronics components	2D flat representation Electronics to Mechanical interfacing



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Add on course on “PCB DESIGN”

END REPORT:


The Chirala engineering college organized an Add on program on “PCB DESIGN” for Electronics and Communication Engineering .The program duration is 6 days from 15-02-2022 to 20-02-2022 . The total number of students attended the program are 28.

Topics covered:

1. Basics of PCB layout, including rigid through-hole boards and analog vs. digital designs
2. basic placement and routing strategies for single and double-sided designs
3. Advanced concepts in PCB layout, including multi-layer
4. Use project from IPC PCB Fundamentals 1 to define net classes, import parts into PCB file, and define DRC rules
5. Materials used to build a PCB. Key concepts include: Mechanical and electrical properties Resins and foils , Solder mask, Legend IPC standards.
6. Resins and foils, Solder mask , Legend , IPC standards
7. Signal integrity concepts, including :Overshoot / undershoot Cross-talk , Rise time / fall time
8. Transmission lines - introduction Signal propagation
9. Transmission lines, EM fields, and EMI/RFI reduction techniques
10. Key concepts include: What actually flows in the trace How to define a transmission line
11. Use of standard title blocks. Standard page sequencing. Readability
12. ECO and revision history Annotation methodology, Design rules Separate Parts lists Assembly drawing PWB drawing Dimensioning Call-out / flag-notes

Course outcomes:

1. Understand basics of PCB designing.
2. Apply advance techniques. skills and modern tools for designing and fabrication of PCBs
3. Apply the knowledge and techniques to fabricate Multilayer, SMT and HDI PCB.
4. Understand concepts of Packaging


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DEPARTMENT OF Electronics and Communication ENGINEERING

Technical Add On Course

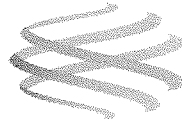
On

PCB DESIGN (2021-2022)

Time Schedule and Syllabus Coverage

S.No	Date	9:00 AM to 12:00 Noon (Topic Covered)	1:30 PM to 4:00 PM (Topic Covered)
1	15-02-22	Basics of PCB layout, including rigid through-hole boards and analog vs. digital designs	basic placement and routing strategies for single and double-sided designs
2	16-02-22	Advanced concepts in PCB layout, including multi-layer Routing . Stack up design, impedance control, planar capacitance, sheet resistance, and design rules.	Use project from IPC PCB Fundamentals 1 to define net classes, import parts into PCB file, and define DRC rules.
3	17-02-22	Materials used to build a PCB. Key concepts include: Mechanical and electrical properties Resins and foils , Solder mask, Legend IPC standards.	Resins and foils, Solder mask , Legend , IPC standards
4	18-02-22	Signal integrity concepts, including :Overshoot / undershoot Cross-talk , Rise time / fall time	Transmission lines - introduction Signal propagation
5	19-02-22	Transmission lines, EM fields, and EMI/RFI reduction techniques.	Key concepts include: What actually flows in the trace How to define a transmission line Distributed model of a Transmission line 4 Emi / RFI and reduction techniques
6	20-02-22	Use of standard title blocks. Standard page sequencing. Readability	ECO and revision history Annotation methodology, Design rules Separate Parts lists Assembly drawing PWB drawing Dimensioning Call-out / flag-notes


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DEPARTMENT OF Electronics and Communication ENGINEERING

Technical Add On Course

On

FUZZY LOGIC (2021-2022)

Time Schedule and Syllabus Coverage

S.No	Date	9:00 AM to 12:00 Noon (Topic Covered)	1:30 PM to 4:00 PM (Topic Covered)
1	22-11-21	Background, Uncertainty and Imprecision, Statistics and Random Processes, Uncertainty in Information, Fuzzy Sets and Membership, Chance versus Ambiguity.	Classical Sets - Operations on Classical Sets, Properties of Classical (Crisp) Sets, Mapping of Classical Sets to Functions Fuzzy Sets - Fuzzy Set operations. Properties of Fuzzy Sets. Sets as Points in Hyper cubes
2	23-11-21	Cartesian Product, Crisp Relations-Cardinality of Crisp Relations, Operations on Crisp Relations, Properties of Crisp Relations, Composition.	Properties of Fuzzy Relations, Fuzzy Cartesian Product and Composition, Non-interactive Fuzzy Sets
3	24-11-21	Features of the Membership Function, Standard Forms and Boundaries, Fuzzification, Membership Value Assignments	- Intuition, Inference, Rank Ordering, Angular Fuzzy Sets, Neural Networks, Genetic Algorithms, Inductive Reasoning.
4	25-11-21	Lambda-Cuts for Fuzzy Sets, Lambda-Cuts for Fuzzy Relations, Defuzzification Methods Extension Principle - Crisp Functions	Vertex method, DSW Algorithm, Restricted DSW Algorithm, Comparisons, Fuzzy Vectors
5	26-11-21	Fuzzy Synthetic Evaluation, Fuzzy Ordering, Preference and consensus, Multi objective Decision Making.	Fuzzy Bayesian Decision Method, Decision Making under Fuzzy States and Fuzzy Actions
6	27-11-21	Natural Language, Linguistic Hedges, Rule-Based Systems - Canonical Rule Forms, Decomposition of Compound Rules,	Likelihood and Truth Qualification, Aggregation of Fuzzy Rules, Graphical Techniques of Inference


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Add on course
on
“FUZZY LOGIC”

END REPORT:

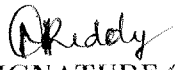
The Chirala engineering college organized an Add on program on “Fuzzy logic” for Electronics and Communication Engineering .The program duration is 6 days from 29-11-2021 to 04-12-2021 . The total number of students attended the program are 69.

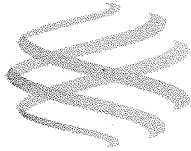
Topics covered:

1. Background, Uncertainty and Imprecision, Statistics and Random Processes
2. Classical Sets - Operations on Classical Sets, Properties of Classical (Crisp) Sets
3. Cartesian Product, Crisp Relations- Cardinality of Crisp Relations, Operations
4. Properties of Fuzzy Relations, Fuzzy Cartesian Product and Composition, Non-interactive Fuzzy Sets
5. Features of the Membership Function, Standard Forms and Boundaries
6. Intuition, Inference, Rank Ordering, Angular Fuzzy Sets, Neural Networks, Genetic Algorithms
7. Lambda-Cuts for Fuzzy Sets, Lambda-Cuts for Fuzzy Relations
8. Vertex method, DSW Algorithm, Restricted DSW Algorithm, Comparisons, Fuzzy Vectors
9. Fuzzy Synthetic Evaluation, Fuzzy Ordering
10. Fuzzy Bayesian Decision Method, Decision Making under Fuzzy States and Fuzzy Actions
11. Natural Language, Linguistic Hedges, Rule-Based Systems - Canonical Rule Forms
12. Likelihood and Truth Qualification, Aggregation of Fuzzy Rules

Course outcomes:

1. Gain the main subject of fuzzy sets.
2. Learn craps and fuzzy set theory
3. Decide the difference between craps set and fuzzy set theory.
4. Make calculation on fuzzy set theory


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Add on course

on

“IPR & P”

END REPORT:

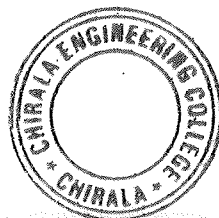
The Chirala engineering college organized an Add on program on “IPR & P” for Electronics and Communication Engineering .The program duration is 6 days from 04-10-2021 to 09-10-2021 . The total number of students attended the program are 81.


Topics covered:

1. Introduction to Intellectual Property Rights (IPR): Concept of Property - Introduction to IPR
2. Traditional Knowledge –Emerging Areas of IPR
3. Copyrights and Neighbouring Rights: Introduction to Copyrights
4. Limitations – Infringement of Copyright – Relief and Remedy – Case Law
5. Patents: Introduction to Patents - Laws Relating to Patents in India – Patent Requirements
6. Patent Cooperation Treaty – New developments in Patents
7. Trademarks: Introduction to Trademarks – Laws Relating to Trademarks
8. Likelihood of Confusion - Dilution of Ownership – Trademarks Claims and Infringement
9. Trade Secrets & Cyber Law and Cyber Crime: Introduction to Trade Secrets
10. Maintaining Trade Secret – Physical Security
11. Cyber Law – Information Technology Act 2000
12. E-commerce-Data Security– Authentication and Confidentiality - Privacy-Digital Signatures

Course outcomes:

1. Identify different types of Intellectual Properties (IPs), the right of ownership, scope of protection as well as the ways to create and to extract value from IP
2. Recognize the crucial role of IP in organizations of different industrial sectors for the purposes of product and technology development
3. Identify activities and constitute IP infringements and the remedies available to the IP owner




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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

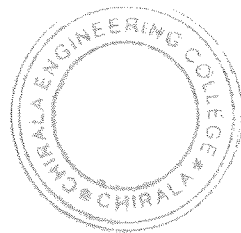
Technical Add On Course

On

IPR & P (2020-2021)

Time Schedule and Syllabus Coverage

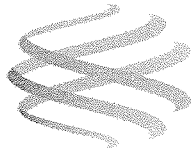
S.No	Date	9:00 AM to 12:00 Noon (Topic Covered)	1:30 PM to 4:00 PM (Topic Covered)
1	16-11-20	Introduction to Intellectual Property Rights (IPR): Concept of Property - Introduction to IPR – International Instruments and IPR - WIPO - TRIPS	Traditional Knowledge –Emerging Areas of IPR - Layout Designs and Integrated Circuits – Use and Misuse of Intellectual Property Rights
2	17-11-20	Copyrights and Neighbouring Rights: Introduction to Copyrights –Principles of Copyright Protection – Law Relating to Copyrights	Limitations – Infringement of Copyright – Relief and Remedy – Case Law - Semiconductor Chip Protection Act.
3	18-11-20	Patents: Introduction to Patents - Laws Relating to Patents in India – Patent Requirements – Product Patent and Process Patent	Patent Cooperation Treaty – New developments in Patents – Software Protection and Computer related Innovations
4	19-11-20	Trademarks: Introduction to Trademarks – Laws Relating to Trademarks–Functions of Trademark – Distinction between Trademark and Property Mark	Likelihood of Confusion - Dilution of Ownership – Trademarks Claims and Infringement – Remedies – Passing Off Action
5	20-11-20	Trade Secrets & Cyber Law and Cyber Crime: Introduction to Trade Secrets – General Principles - Laws Relating to Trade Secrets	Maintaining Trade Secret – Physical Security – Employee Access Limitation –Employee Confidentiality Agreements
6	21-11-20	Cyber Law – Information Technology Act 2000 - Protection of Online and Computer Transactions	E-commerce-Data Security– Authentication and Confidentiality - Privacy-Digital Signatures – Certifying Authorities- Cyber Crimes - Prevention and Punishment – Liability of Network Providers



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Dr. R.A. Isavel
(HOD-ECE)

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A awarded 'A' Grade by APSCHE , ISO 9001-2008 certified Institute
(Approved by AICTE and Affiliated to JNTUK - Kakinada)
Chirala, Prakasam District , Andhra Pradesh, India. Pin – 523157

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Add on course

on

“SEMICONDUCTOR DEVICE MODELLING AND SIMULATION”

END REPORT:

The Chirala engineering college organized an Add on program on “SEMICONDUCTOR DEVICE MODELLING AND SIMULATION ” for Electronics and Communication Engineering .The program duration is 6 days from 10-02-2020 to 15-02-2020 . The total number of students attended the program are 99.

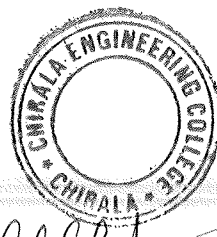
Topics covered:

1. State the constituents of a device model Recognize the importance of approximations
2. simulation and design Transform the equivalent circuit form of a device model
3. The reason for terming certain mechanisms of carrier motion as semi-classical
4. The series of approximations leading to the drift diffusion carrier transport formulation
5. Write the equations of electromagnetic field driving the device current, namely Maxwell's wave equations
6. Write the fundamental equations of determining the device current based on each of the following: Schrodinger equation
7. Its three coupled equations in electron concentration, n , hole concentration, p , and potential the conditions imposed on n, p
8. solve the coupled equations the equations for field dependent mobility in bulk and inversion layers
9. State the conditions (including those at the boundary) and the defining differential equation
10. Factors governing, the characteristic times and lengths State how the characteristic times
11. Describe the nine steps for deriving a device model
12. Identify the variables, constants and parameters of a model Organize the approximations

Course outcomes:

1. At the end of this course you should be able to Explain the equations, approximations
2. Apply suitable approximations and techniques to derive the model referred to above starting from drift-diffusion transport equations (assuming these equations hold)
3. Offer clues to qualitative understanding of the physics of a new device and conversion of this understanding into equations

Dr. R. A. Kuber
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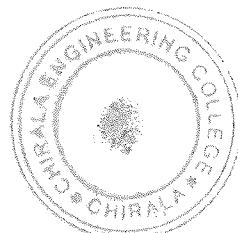
Technical Add On Course


On

SEMICONDUCTOR DEVICE MODELLING & SIMULATION (2020-2021)

Time Schedule and Syllabus Coverage

S.No	Date	9:00 AM to 12:00 Noon (Topic Covered)	1:30 PM to 4:00 PM (Topic Covered)
1	10-02-20	State the constituents of a device model Recognize the importance of approximations in a model Recognize the various stages of IC design where device models are used Distinguish among activities of analysis, modelling.	simulation and design Transform the equivalent circuit form of a device model into a mathematical form, and vice-versa Recognize how the equations get lengthy and parameters increase in number while developing a model
2	11-02-20	The reason for terming certain mechanisms of carrier motion as semi-classical The concepts of scattering, effective mass and carrier .	The series of approximations leading to the drift diffusion carrier transport formulation starting from the concept of carriers as particles in random thermal motion.
3	12-02-20	Write the equations of electromagnetic field driving the device current, namely Maxwell's wave equations and their quasi-static approximation Lorentz force equation .	Write the fundamental equations of determining the device current based on each of the following: Schrodinger equation, Newton's second law and Boltzmann Transport Equation BTE
4	13-02-20	Its three coupled equations in electron concentration, n, hole concentration, p, and potential the conditions imposed on n, p.	solve he coupled equations the equations for field dependent mobility in bulk and inversion layers.
5	14-02-20	State the conditions (including those at the boundary) and the defining differential equation associated with each characteristic time and length State the order of magnitude.	Factors governing, the characteristic times and lengths State how the characteristic times and lengths are useful in qualitative description of device phenomena simulation and characterization of devices validation of approximations
6	15-02-20	Describe the nine steps for deriving a device model Apply the nine steps to derive the model of a spreading resistance .	Identify the variables, constants and parameters of a model Organize the approximations associated with a device .




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Dr. R.A. Isabel
(HOD-ECE)

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CHIRALA ENGINEERING COLLEGE-CHIRALA
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
A Workshop on “ Industrial Electronics”
10.02.2020-15.02.2020
Syllabus of Industrial Electronics

1. Input transducers and Sensors: Position, displacement, velocity, acceleration, force, flow pressure, level temperature, humidity. Telemetry 0-10V and 4-20mA systems.

Thermocouples, RTD, LVDT, Servo-pots, strain gauges, P, PI, PID converters, average to rms converters.

Actuators, DC and AC stepper motors, Dosing equipment weigh feeders, dosing pumps, extrusion – bulk and film electronic components. Medical equipments.
2. Programmable controllers and PLCs. Rotary encoders, digipots.

Automation: Transfer machines, robotics basics, Application of PLCs,
3. Industrial heating: Arc furnace, high frequency heating, High frequency source for induction heating, dielectric heating and microwave heating, Ultrasonic- Generation and applications.
4. High voltage equipments: voltage multipliers, electrostatic charging, precipitation, and painting. Plasma torches, particle accelerators electron beam welding, ion implantation, thrusters and gas lasers. Case studies of industrial applications. transducer, accelerometers, Ultrasonic generation –Pulsed echo ultrasonic flaw detector
5. Need of inverters -MOSFET based Inverter circuit- PWM Voltage control of Inverter -SMPS with block diagram-applications of SMPS -Off Line UPS and Online UPS- Industrial automation-PLC Block diagram- applications of PLC in the industry.

CHIRALA ENGINEERING COLLEGE-CHIRALA
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
A Workshop on “ Transducers”
22.07.2019-27.07.2019
Syllabus of Transducers

1. Introduction to Transducers, Sensors and Actuators. Transduction Principles and Classification. Static and Dynamic Characteristics of Transducer. Accuracy vs Precision. Errors in Measurement and Instrumentation, Propagation of Errors.
2. Thermal Sensors: Thermocouples, RTDs and Thermistors
3. Optical Sensors: Basic Principles and Operations, Interferometric Sensors Distributed and Bragg's Grating based Sensors, Working Principles of Optical Detectors, Working Principles of Optical Sources
4. Acoustic Sensors: Piezo-electricity and Propagation Modes
5. Magnetic Sensors: Magnetostriction and Magnetic-Elastic Sensors, Magneto-resistive Sensors, Hall Sensors
6. Radiation Sensor: Introduction to Radiation Sensing, Spectroscopy, Gas Filled and Solid-State Detectors
7. Smart Sensors: Introduction, Integration of Sensors and Actuators with Arduino

CHIRALA ENGINEERING COLLEGE-CHIRALA
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
A Workshop on “ Remote Sensing
07.01.2019-12.01.2019

Syllabus of Remote Sensing

- 1. Introduction to Remote Sensing
- 2. Electromagnetic Energy
- 3. Principles of Remote Sensing
- 4. Passive/Active Remote Sensing
- 5. Remote Sensing Platforms
- 6. Airborne and Space-borne Remote Sensing
- 7. Ideal Remote Sensing
- 8. Characteristics of Real Remote Sensing Systems
- 9. Advantages and Disadvantages of Remote Sensing

CHIRALA ENGINEERING COLLEGE-CHIRALA
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
A Workshop on “ Basic Tools of Microwave”
16.07.2018-21.07.2018
Syllabus of Basic Tools of Microwave

1. Challenges of microwave design and how Smith Chart can be used to find unknown impedance
2. Impedance matching network design
3. Equivalent voltage and current concept at microwave frequency and s-parameters
4. Signal flow graph, problem solving with s-parameters and signal flow graphs